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Report No. 11735-IN

STAFF APPRAISAL REPORT

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

JUNE 4, 1993

South Asia Country Department II (India)
Population and Human Resources Operations Division

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CURRENCY EQUIVALENTS
(As of April 1, 1993)

Currency Unit = Rupee
Rupee 32.60 = US$ 1.00
Rupee 1.00 = US$ 0.031

METRIC EQUIVALENTS

1 Meter (m) = 3.28 Feet (ft)
1 Kilometer (km) = 0.62 Miles

FISCAL YEAR

April - March 31

ABBREVIATIONS AND ACRONYMS

DANIDA	-	Danish Development Assistance Agency
GOI	-	Government of India
IDA	-	International Development Association
IEC	-	Information, Education and Communication
MB	-	Multi-Bacillary
MDT	-	Multidrug Therapy
M.leprae	-	Mycobacterium leprae
MMDT	-	Modified Multidrug Therapy
MOHFW	-	Ministry of Health and Family Welfare
NGO	-	Non-Governmental Organization
NLEP	-	National Leprosy Eradication Program
PC	-	Paucibacillary
PHC	-	Primary Health Care
SIDA	-	Swedish International Development Agency
UT	-	Union
WHO	-	World

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DEFINITIONS

Bacilli	Rod-shaped bacteria.
Coverage	A measure of the extent to which the services rendered cover the potential need for these services in a community. It is expressed as a proportion in which the numerator is the number of services rendered, and the denominator is the number of instances in which the service should have been rendered.
Elimination of Leprosy	The 44th World Health Assembly (1991) adopted a resolution to eliminate leprosy by the year 2000, with elimination defined as reaching a level of prevalence below 1 case per 10,000 population.
Endemicity	The usual presence of a disease or infectious agent within a geographic area or population group.
Epidemiology	The study of the distribution and determinants of health-related conditions and events in populations, and the application of this study to the control of health problems.
Incidence Rate	Number of new cases of a disease or condition over a period of time as a proportion of the population at risk at midpoint. Incidence means "new" and is a direct indicator of risk.
Leprosy	Also called Hansen's disease (Hansen's bacillus was discovered by the Norwegian physician G. Armauer Hansen in 1874). Chronic slow developing bacterial disease of man caused by Mycobacterium leprae affecting mainly peripheral nerves and skin. The suffering of leprosy is caused by damage to the peripheral nerves, which leads to sensory loss, paralysis and loss of function of the hands, feet and eyes. It is feared because of its potential for crippling and disfigurement. The resulting deformities are the main cause of the social stigma attached to the disease.
Multibacillary Leprosy (MB)	Leprosy case showing a high density of bacilli on slit-skin smear examination. The result of this microscopic examination is recorded as the bacterial index. Multibacillary leprosy is associated with the progressive and disseminated form of disease called lepromatous leprosy.
Paucibacillary Leprosy (PB)	Leprosy case showing only a few or no bacilli on slit-skin smear examination. Paucibacillary leprosy is associated with tuberculoid leprosy, which is a milder form of the disease.
Prevalence Rate	Number of cases of a disease or condition at a given point in time as a proportion of the total population. Prevalence means "all" and is used by health planners to assess workload and service delivery needs.
Vertical service	Method of service delivery which utilizes a specialized monopurpose staff and resources in contrast with a horizontal service, which utilizes the general health care system to provide a specific service.

CHC - CPHE section
Narayan
27/5/98

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INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

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This report is based on an appraisal mission that visited India in January/February 1993 and consisted of: Salim Habayeb (Mission Leader and Sr. Public Health Physician), Maria Donoso Clark (Sr. Anthropologist), Sheryl Sandberg (Economist), Avyeris Andonyadis (Sr. Architect), Kevin Casey (Operations Officer) and B. K. Rao (NLEP Consultant). Chandra Godavitarne (Sr. Operations Officer), N. Raman (Procurement Engineer), and S. Subramanian (Financial Analyst) participated in appraising procurement, disbursement and auditing arrangements. The mission was assisted by Boudewijn Peters (Chief Adviser, DANIDA Assisted-NLEP) and Olavi Elo (WHO Representative to India). Rekha Dayal (Women in Development Specialist), Mohinder Virdy (Procurement Specialist), Damianos Odeh (Sr. Economist), A. A. Contractor (Public Health Specialist), John Middleton (Sr. Operations Officer), Jian Mei Gan (Financial Analyst), Joel Almeida (Consultant Leprologist), L. Lopez-Bravo (WHO Consultant), M. George (WHO Consultant), Don Foster (Training Consultant) and Judy Brace (Health Education Consultant) participated in project preparation. Soon-Won Pak, Vivian Mendosa and Edward Davis prepared the documents, graphics, annexes and cost tables. The Peer Reviewers were S. K. Noordeen (Chief Medical Officer, Leprosy Unit, WHO, Geneva) and Jean-Louis Lamboray (AFTPN). The Project is endorsed by Richard Skolnik, Chief, Population and Human Resources Division and Heinz Vergin, Director, India Country Department.

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INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

CREDIT AND PROJECT SUMMARY

Borrower: India, acting by its President

Beneficiaries: Selected States and Union Territories of India

Amount: SDR 60.0 million (US$85.0 million equivalent)

Terms: Standard, with 35 years maturity

On-lending terms: Government of India to the States and Union Territories in accordance with standard arrangements for development assistance to States and Union Territories

Description: The objectives of the project are to eliminate leprosy as a public health problem in India by the turn of the century by reducing the disease prevalence from 2.4 per 1,000 to 0.1 per 1,000 and to reduce the impact of leprosy disability. The project would finance the incremental cost of a six-year time slice of an enhanced National Leprosy Eradication Program. The project would bring added value and efficiency to the program through promotion of an appropriate mix of service delivery mechanisms, policies and strategies, provision of a wider and more effective package of leprosy services, and expansion of the use of appropriate technology.

The project would focus on program enhancements in five activities: (a) expansion of multidrug therapy through a vertical structure targeting about 66 high-endemicity districts, providing outreach services to the community and service circuits designed with the participation of the beneficiary population, and strengthening current control operations in 135 other districts with high prevalence; (b) integration of multidrug therapy into the general health care system in about 77 intermediate-endemicity districts and pockets of infection; (c) disability care and prevention through health education, preventive precautions, physiotherapy, supportive medicines, ulcer care and reconstructive surgery; (d) promoting public awareness and community participation through village awareness camps, non-formal methods of education, mass media and interpersonal education by health personnel with emphasis on the importance of early treatment and gender concerns; and (e) enhancing skills and institutional development through the provision of short-term training to about 160,000 persons and strengthening program coordination capabilities.

Benefits: The project would enable India to eliminate leprosy as a national public health problem by the year 2000. The project would eliminate the disease in 2.2 million people with leprosy and in 1.8 million new cases, treating a total of 4 million people. The project would decrease the occurrence of disability alleviating human suffering, economic loss and the social burden and stigma of the disease. Leprosy control generates high positive externalities. The project would have a high social return in terms of healthy life years saved.

The project would reach underprivileged communities and benefit an estimated 2.4 million people below the GOI poverty line. The project would benefit about 1.6 million women and reduce the current gaps in the coverage and treatment of women with leprosy.

Risks: There are some risks to the project. First, there is a risk that the Union Government may not be able to facilitate local implementation of all control activities. This will be addressed by upfront State commitment to project implementation through Letters of Undertaking, by providing the States with Leprosy Consultants, and by encouraging continuous State involvement in planning and evaluating program activities through regular workshops and increased local training. The project would foster local involvement by further developing the role of the District Leprosy Societies in project implementation. Second, there is a risk that primary health care staff may not be sufficiently motivated to fulfill leprosy responsibilities in the integrated model of service delivery. This would be addressed by selecting moderate prevalence areas for this model of service delivery, and through the provision of in-service training and incentives for performance. Third, there are the usual risks of poor use of project investments by a Borrower whose implementation record is mixed. These would be addressed by the careful preparation of implementation arrangements, project management and procurement, and the use of WHO resident technical assistance for project monitoring.

	Local	Foreign	Total
	------ US$ Million ----		
Estimated Project Cost: /a			
Vertical Multidrug Therapy	71.2	9.7	80.9
Multidrug Therapy through PHC	19.6	2.7	22.3
Disability Care & Prevention	6.2	1.7	7.9
Promoting Public Awareness	11.7	0.7	12.4
Enhancing Skills and Institutional Development	11.9	0.7	12.6
TOTAL BASE COST	120.6	15.5	136.1
Contingencies	-0.5	2.7	2.2
TOTAL PROJECT COST	120.1	18.2	138.3

/a Including taxes and duties estimated at US$3.4 million equivalent.

Financing Plan:

	Local	Foreign	Total
Government	53.3	-	53.3
IDA	66.8	18.2	85.0
TOTAL PROJECT COSTS	120.1	18.2	138.3

Estimated Disbursements:

IDA FY	FY94	FY95	FY96	FY97	FY98	FY99	FY2000
Annual	8.6	16.5	16.6	14.0	13.5	11.8	4.0
Cumulative	8.6	25.1	41.7	55.7	69.2	81.0	85.0

Economic Rate of Return: Not applicable

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

I. LEPROSY SITUATION IN INDIA

A. The Issue of Leprosy in India: Dimensions and Epidemiology

1.01 India is one of the few countries where leprosy is a major public health problem, accounting for one third of the global leprosy load. Currently, there are approximately 2.2 million people with leprosy in India, with 300,000 new cases arising annually, bringing the projected total disease burden during the rest of the decade to about 4 million people.

1.02 Although the disease is found throughout the Indian sub-continent, it is not equally distributed. A wide variation in prevalence exists and high-, moderate- and low-endemicity areas have been identified. The areas of high prevalence where nearly 435 million people live are found mainly in the central and south-eastern parts of the country.

1.03 Leprosy, also called Hansen's disease, is a chronic, slow developing infectious disease caused by Mycobacterium leprae (M. leprae). Leprosy is essentially a disease of peripheral nerves. The majority of people who are exposed to M. leprae develop a subclinical infection, show no signs or symptoms of disease, and recover naturally. For those who do develop the disease, skin patches are the most common manifestation. Many untreated leprosy patients are at risk of disability unless the disease is detected and treated in time and the nerves protected by anti-inflammatory therapy as needed. About 30 percent of untreated patients suffer from deformities.

1.04 Before the 1980s, leprosy control was based on dapsone1/ monotherapy which involves prolonged or life-long treatment, making compliance very difficult and generating a high frequency of drug resistance. As a result, this approach had little effect on breaking the transmission of the infection or on reducing disease prevalence. Progress in controlling leprosy during the 1980s, however, has been encouraging, mainly as a result of the development of multidrug therapy (MDT), a treatment consisting of three drugs: rifampicin, clofazimine, and dapsone. MDT was successfully introduced in 135 districts and led to the decline of leprosy in these areas. The average annual case discharge of MDT-cured patients over the last several years exceeded the annual new case detection.

1.05 Out of 455 districts in the nation, 201 are classified as high endemicity districts with prevalence rates of over 5 per 1,000 or an average of 15,000 cases per district. However, the prevalence has recently decreased to intermediate levels in many of the 135 districts were MDT was introduced. The remaining areas requiring MDT provision consist of 163 districts of high and intermediate endemicity. The prevalence of leprosy cases in India is shown in Annex 1. The current status of the program coverage is as follows:

1/ Sulfone drugs were first introduced for leprosy therapy at the U.S. Public Health Service Hospital at Carville, Louisiana, in 1943.

Leprosy prevalence	Districts	Status
High	201 districts	135 currently under MDT 66 require MDT provision
Intermediate	77 districts	Require MDT provision
Low	177 districts	Endemic pockets of infection equivalent to 20 districts require MDT

1.06 The implications of leprosy as a public health problem are significant. Leprosy imposes negative externalities on society due to its potential for causing physical deformities, chronicity, communicability when untreated and propensity to generate intense negative social reaction against inflicted people. Those who suffer from leprosy face a loss of employment and ostracization from their families and communities.

1.07 Leprosy affects people of all ages, with children comprising approximately 15 percent of leprosy patients. Age-specific incidence rates show a bimodal distribution, peaking at 10-14 years and during adulthood, as shown in **Annex 2**. The prevalence of leprosy among boys and girls is approximately equal. In adults, however, the prevalence among males is nearly twice that of females. This may be related to a greater opportunity of repeated contact with other infected people, social practices or hormonal factors. Some of this differential may be explained by the fact that males are more likely to seek treatment and more easily screened by field workers.

1.08 Disability in leprosy patients results from nerve damage occurring in two ways: first, M. leprae can proliferate within nerves and second, the body's own responses against M. leprae can damage nerves. Patients cease to feel pain in the affected region (anaesthesia) and lose their tissues by constant damage, infection, and wearing down. Muscles connected with damaged nerves become paralysed and waste away, permitting other muscles to pull affected limbs into deformed positions. Without treatment, deformity is likely as most nerve damage occurs without the patient's knowledge. **Annex 3** illustrates nerve damage and mechanisms causing disability.

1.09 Clinically, leprosy is classified within a spectrum of categories between the two extreme forms: tuberculoid leprosy, which is localized to one or more body sites, and lepromatous leprosy, which is a more serious, generalized disease with multiple organ involvement. In slit-skin smear examinations, tuberculoid leprosy is paucibacillary (PB) while lepromatous leprosy is multibacillary (MB). Disease classification is valuable as it helps in determining the prognosis and duration of treatment, the likely response to treatment, and the possible therapeutic complications that can be alleviated through proper measures. Diagnosis of leprosy is based on: (a) characteristic skin lesions such as hypopigmentation in the tuberculoid form, and diffuse infiltration, macules and nodules in the lepromatous form; (b) sensory loss of individual skin lesions or of an area of the skin supplied by a peripheral nerve; (c) thickened nerves at the sites of predilection such

as the ulnar, posterior tibial, lateral popliteal, radial cutaneous, facial and greater auricular nerves; and (d) demonstration of acid-fast bacilli in microscopic examinations of slit-skin smears.

1.10 The human being is the only transmission reservoir of significance although armadillos and Mangabey monkeys can be affected as well. M. leprae is transmitted by exiting from the infectious person through nasal discharges and entering the body of another person through the upper respiratory tract. Direct exposure of broken skin to secretions from leprosy lesions may also spread the disease. Most transmission involves long-term exposure or prolonged close contact with an infected person.

B. Development of the National Leprosy Eradication Program (NLEP)

1.11 A control program was launched by the Government of India (GOI) in 1955. The program at that time was partially sponsored by the Union Government. As program inputs were limited and the medicines available were not very effective, leprosy control progressed slowly. In 1978, leprosy treatment was identified as a high priority at the Alma-Ata conference. The turning point for the development of the program was in 1983 when multidrug therapy was introduced and the program was renamed the National Leprosy Eradication Program (NLEP).

1.12 The NLEP is coordinated by the Deputy Director General of Health Services at the Union Ministry of Health & Family Welfare (MOHFW). Under the supervision of the State Director of Health Services, each state has a State Leprosy Officer. Each endemic district has a registered District Leprosy Society. These societies have been effective in advancing leprosy control efforts in India. Staffing of the Societies is discussed in para. 3.09. The District Society is responsible for organizing and implementing the program in keeping with NLEP policy decisions. The existing infrastructure under the National Program is shown in **Annex 4** and the duties of various personnel categories are described in **Annex 5**.

1.13 In rural areas, leprosy services are provided by the Leprosy Control Unit. In urban areas, these activities are carried out by the Urban Leprosy Center. In regions with leprosy endemicity of less than 5 per 1,000, survey education and treatment centers have been established within the framework of the existing Primary Health Centers and hospitals. Forty nine Leprosy Training Centers have also been set up throughout the country to train medical officers, paramedical workers, non-medical supervisors, laboratory technicians, and physiotherapists. In addition, a limited number of reconstructive surgery and leprosy rehabilitation units have been established to address the physical and vocational needs of patients with deformities.

C. Current Issues in Leprosy Control

1.14 Limited Coverage and Organizational Issues. As stated previously, leprosy control progressed very slowly prior to the 1980s because it was based on dapsone monotherapy. The introduction of MDT brought a new momentum to control efforts. As of July 1992, however, 66 high-endemicity districts and all intermediate-endemicity districts remained uncovered by MDT provision

schemes. The Government aims to cover the remaining districts to ensure that at least 90 percent of the nation's patients receive MDT.

1.15 MDT coverage depends upon the organization of service delivery, either through vertical or horizontal structures. Vertical or single purpose service delivery is required in high prevalence areas where the disease burden (12,000 to 15,000 cases per district) cannot be handled by the regular primary health care staff as demonstrated by past experience and pilot interventions in India. In low endemicity areas, however, a vertical program for leprosy control would be unnecessary. As the disease prevalence declines to moderate levels, therefore, treatment of leprosy can be integrated into the general health system.

1.16 Strategically, integration would allow leprosy control to utilize the full potential of resources and medical skills available in the health system. Once integration takes place, however, vigilant program monitoring needs to be maintained to ensure that effective leprosy control does not deteriorate in scope and function.

1.17 Limited Capacity to Address Leprosy-related Disability. The disability process starts with impairment of anatomical structure or function, which leads to disability and finally to severe handicap. Deformities are commonly found in patients with either delayed or incomplete treatment, which often occurred prior to the introduction of multidrug therapy. Due to the limited scope of MDT coverage, many patients have already developed deformities. Fortunately, the success of MDT has led to a considerable increase in patient self-reporting at early stages of the disease and consequently, to a significant reduction in the number and degree of deformities among new cases. For patients who have already developed deformities, reconstructive surgery, physiotherapy and physical rehabilitation can correct these deformities and enable them to enjoy a better and more productive life.

1.18 As deformity causes much of the social stigma associated with leprosy, disability care is vital to an effective program. The cost-effectiveness of dealing with leprosy disability is significant. A study in Tamil Nadu estimates that the elimination of deformity doubles the probability of gainful employment and more than doubles the annual earnings of those who are employed. 1/

1.19 In the past, the program has focused on the treatment of the leprosy "infection" and has undertaken only limited disability care. The Alma-Ata declaration, however, defined primary health care as promotive, preventive, curative and rehabilitative services. Provision of physical rehabilitation is thus recognized as an integral part of an effective health system. In the future, the NLEP will need to focus more attention on disability care management to rectify this weakness.

1/ Max and Shepherd, 1989.

The Cost-Effectiveness of Leprosy Treatment

The income loss due to deformity from leprosy in India was evaluated by Max and Shepherd (1989) in a survey of 550 leprosy patients randomly sampled from a rural and an urban area in the state of Tamil Nadu. Their analysis showed that elimination of deformity would raise the probability of gainful employment from 42.2% to 77.6%. The authors' extrapolation to all of India's estimated 645,000 leprosy patients with deformity suggested that elimination of deformity would raise earnings by $130 million per year.

Disease Control Priorities in Developing Countries: An Overview, by Dean Jamison, the World Bank, compares the cost-effectiveness of different public health interventions. It clearly shows how the costs involved in intervention strategies for leprosy are among the lowest when compared to intervention strategies for other diseases, while returns are high.

In terms of primary prevention of leprosy through the use of targeted screening, the costs involved are as low as $0.50 per disability adjusted life year (DALY). In terms of cure of leprosy through the use of multi-drug therapy with monthly visits to the health center and daily oral medications, the costs are $7 per DALY, depending on the percentage of cases which are multi- or pauci-bacillary.

1.20 Social Perceptions of Leprosy. The suffering of leprosy patients is aggravated by fear, ignorance, and the social ostracization historically attached to this disease. As a result, leprosy is not only a serious health problem, but a socioeconomic problem as well.

1.21 The NLEP has made inroads towards fighting the social stigma associated with leprosy through health education and public awareness interventions. Whereas in the past, leprosy patients were often expelled from their homes and forced to live in leprosy colonies, Indian society today is beginning to be more receptive to dealing with leprosy patients and treatment is generally administered within the home and community. Yet leprosy patients still face the risk of social discrimination, rejection and loss of employment.

1.22 Most people identify leprosy with deformities, which, combined with the poverty characteristic of leprosy patients, are the major cause of the social stigma attached to the disease. Disabilities occur predominantly in young adults and continue to worsen throughout life, largely affecting patients' limbs, eyes and nose. Patients with deformities experience great difficultly finding and keeping life-partners, and may become social outcasts. Even after death, some leprosy patients are buried without religious rites or cremation since villagers are afraid that the germs of leprosy would be spread with the ashes.

1.23 Limited Effectiveness of Health Education Activities. To date, health education activities have relied largely upon formal methods of dispensing information such as distributing pamphlets and posters. Due to high illiteracy rates, especially among women, these activities have had only limited impact in providing information and bringing women into the information loop. To successfully address public perception of the disease, non-formal methods of information, education, and communication (IEC) need to be used, such as health camps with extensive village participation and activities involving village leaders.

1.24 Gender Concerns. Underreporting and late detection of leprosy in females is common. Contributing factors to this condition include the following: (a) women's attire makes complete skin examination difficult; (b) women are conditioned to ignore their illnesses until the problem becomes acute; (c) social stigma of the disease is higher for females since it may be erroneously associated with promiscuity and greatly decreases girls' prospects for marriage; and (d) the probability of married women being abandoned on detection is high, increasing the tendency for females to hide the disease.

1.25 The Government is planning to hire more female health workers in selected areas and to use non-formal education including messages to encourage self-identification, self-reporting, self-care and protection of limbs when cooking.

1.26 Financing Issues. During the past several years, the Government of India has spent approximately 220 million rupees on the National Leprosy Eradication Program each year (Annex 6). This central budget is broken down into four components: grants to states, anti-leprosy drugs, operational support to the District Leprosy Societies, and grants to voluntary organizations. Operational support to the districts has doubled since 1985 reflecting the growth of MDT provision schemes.

1.27 Budgetary allocations, while facilitating progress in leprosy reduction in India, have been insufficient to make significant headway towards achieving the NLEP goal of national leprosy elimination by the turn of the century. Due to limited resources, the NLEP has not been able to extend MDT coverage to all areas requiring it (para. 1.05). Even in areas covered by MDT, a lack of resources has led to insufficient provision of disability care, training and public awareness interventions.

1.28 External and Local Assistance for Leprosy. Numerous local and external organizations are involved in leprosy control activities in India. The World Health Organization (WHO) has played an important role in the Government's program by providing technical advice, sponsoring regional and annual review meetings of State Leprosy Officers and voluntary organizations, funding fellowships for research and educational activities, and undertaking independent evaluations of the program.

1.29 Since 1986, the Danish Development Assistance Agency (DANIDA) has collaborated with GOI in leprosy control. Its successful experience in India has demonstrated the importance of community-based activities and health

education. DANIDA provides assistance to eight districts. 1/ The Swedish International Development Agency 2/ (SIDA) has been supporting the program since 1978 under a trilateral agreement with GOI and WHO. This assistance is being phased out and SIDA is planning to support a rehabilitation project. NORAD provided support to leprosy control in 3 districts. 3/ Other international organizations involved with the NLEP include the German Leprosy Relief Association, the British Leprosy Relief Association (LEPRA), the Leprosy Mission, American Leprosy Association, the Italian Amici di Raoul Follereau, and the Damien Foundation. Approximately 150 local volunteer organizations such as the Gandhi Memorial Leprosy Fund and Hindu Kusht Nivaran Sangh are currently involved in multi-functional leprosy relief services and an equal number are involved in smaller activities.

D. Lessons of Experience

1.30 There is no past Bank Group experience in financing leprosy control in India. 4/ The proposed assistance, however, would build upon considerable local and international experience with leprosy (paras. 1.28-1.29) among which the richest experience is found in India. The main conclusions to date include: (a) appropriate technology is vital to success; (b) vertical single purpose infrastructure is necessary for effective service delivery in high prevalence areas, where the disease burden cannot be handled by the general health staff, while integration with the regular health care system is more cost-effective in moderate and low prevalence regions; (c) disability care must be provided as deformity constitutes the patient's single most important concern; (d) patient segregation is detrimental, unnecessary, and hinders the effectiveness of leprosy control activities by breeding defaulters and deterring patients from seeking treatment; (e) health education which relies on formal methods in high illiteracy communities has limited effectiveness; (f) responsibility to deal with the disease must be promoted at the community level; and (g) surveillance of contacts is necessary because of the clustering tendency of leprosy.

1.31 Advantages of multidrug therapy. Before the 1980s, leprosy control was based on dapsone therapy, which involves prolonged or life-long drug intake, making treatment compliance very difficult. Dapsone treatment can also be ineffective due to the development of drug resistance. As a result, this approach had little effect on reducing disease prevalence.

1/ Salem, Madras and South Arcot (Tamil Nadu); Cuttack and Sambalpur (Orissa); Durg, Rajnandgaon and Gwalior (Madhya Pradesh).

2/ Krishna (Andhra Pradesh); Chandrapur, Bombay (Maharashtra); Thanjavur (Tamil Nadu); and Varanasi (Uttar pradesh).

3/ Prakasam, Nellore, Kurnool (Andhra Pradesh).

4/ However, the World Bank supported the Special Program for Tropical Disease Research and Training (TDR) with UNDP and WHO, and this program sponsored the development and introduction of multidrug therapy in the late 1970s and early 1980s.

1.32 MDT speeds up the inhibition of M. leprae and reduces the risk of treatment failure due to dapsone resistance. The standard MDT regimen is shown in **Annex 7**. MDT has many advantages: relatively short duration of treatment, low frequency of toxicity and low relapse rate following treatment completion. As a result, MDT has led to substantial progress in the treatment and control of leprosy, reducing the global and Indian caseload.

1.33 As its use has become more widespread, MDT has fostered higher levels of motivation among health workers and patients, leading to increased treatment compliance due to patient satisfaction and greater community support for patients. As MDT coverage throughout the nation has increased, leprosy prevalence has decreased as shown in **Annex 8**. MDT has also led to a substantial decrease in the percentage of children inflicted with leprosy as well as an increase in the number of villages without any incidence of leprosy.

1.34 Detriments of Patient Segregation. Segregation of patients does not have any public health advantage because lepromatous patients are often infective for years before signs of disease develop. Historical reviews show that leprosy started to decline before segregation began in the 19th century, and even then only a small fraction of patients were segregated at any one time. Any treatment regimen that includes rifampicin makes patients non-infectious within two days. Segregation of patients is not only unnecessary, but hinders the effectiveness of leprosy control activities by breeding defaulters, deterring patients from seeking treatment, and consequently facilitating continued spread of the infection from hidden cases.

1.35 Contact Surveillance. Examination of household contacts is necessary because leprosy tends to cluster in families. Case detection is facilitated by health education. Informing people that leprosy is curable within a short period of time, assuring them that deformities are preventable with early and complete treatment, teaching them the early signs of leprosy, and informing them where treatment may be sought are effective methods of promoting self-reporting. Once patients are identified, health education needs to be continued to emphasize the importance of regular treatment and methods of disability prevention, thereby improving treatment compliance.

1.36 Experience of Bank-assisted Projects. IDA has assisted in financing seven population projects, one maternal and child health project, one AIDS control project, and four nutrition projects in India. Most projects have generally been or are being implemented satisfactorily. However, many of them suffered initial delays and two recent nutrition projects have started more slowly and with less attention to quality than planned. Two completed population projects met most of their project objectives, although they had little impact on the overall Family Welfare Program. A third completed population project was quite successful in one state but less in another. The completed Tamil Nadu Nutrition Project had a positive impact on the nutrition status of malnourished children. The ongoing Fourth and Fifth Population Projects are already showing positive results on morbidity and fertility. The National AIDS Control Project is being implemented in accordance with plans.

1.37 Lessons of experience with Bank-assisted social sector projects in India, however, suggest that greater attention needs to be paid to financing and management, beneficiary participation in planning project activities, supervision of staff, training of personnel, the supply of necessary materials and sustainability, especially in the present environment of adjustment. Major impacts have occurred only when significant focus has been placed on refining program approaches, strategies and technologies.

E. Country Assistance Strategy and Rationale for IDA's Involvement

1.38 General. IDA aims to assist India in speeding economic development and poverty alleviation by supporting structural adjustment and liberalization in key areas such as trade and finance. IDA also aims to encourage more rapid poverty alleviation by helping India direct greater attention to human capital issues and improve the coverage, quality, efficiency and effectiveness of India's human resource development programs.

1.39. Sectoral. IDA's strategy for public health in India is to assist and further advance the Government's policy in controlling major endemic diseases before the turn of the century, while simultaneously improving quality, effectiveness and efficiency of health systems in a sustainable manner. In support of this strategy, the National AIDS Control Project was brought to the Board in 1992. IDA is also working with the Government in preparation of the control of pulmonary tuberculosis, malaria, cataract blindness, and a model for strengthening state health systems. These health development interventions would be in addition to our ongoing and future portfolio in population, nutrition, safe motherhood and child survival. In this context, IDA places considerable emphasis on the importance of improving the health status of India's poorer citizens so they and their children may be more healthy and productive.

1.40 The Project and Added Value of IDA's Involvement. The elimination of leprosy is one of several priority interventions identified by the Government in the health sector. IDA's assistance in leprosy control was also recommended in a 1992 IDA health financing study. In addition, the proposed project would link closely with the recent Social Safety Net Sector Adjustment Credit, which incorporated a focus on endemic disease control including the Leprosy Program.

1.41 Studies done on leprosy have shown that treating leprosy and related disabilities has a high social rate of return and should be a high priority for investment in public health. The importance of helping India deal with leprosy is heightened by the fact that the disease causes deformities and by the extreme social stigma attached to affected people. IDA's assistance would allow the Government to accelerate the elimination of leprosy. Without IDA assistance in this effort, progress in leprosy elimination would be slower and a significant pool of 1.2 million people with leprosy would remain at the turn of the century.

1.42 Collaboration with IDA would bring added value and efficiency to the program through promotion of an appropriate mix of service delivery mechanisms, policies and strategies, provision of a wider and more effective package of services, and expansion of the use of appropriate technology.

II. THE PROJECT

A. Project Objectives

2.01 The main objective of the proposed project is to eliminate leprosy as a public health problem in India by the year 2000 by reducing the prevalence from 2.4 per 1,000 to 0.1 per 1,000 nationwide. This would be accomplished by treating 2.2 million people currently with leprosy and 1.8 million new cases, reducing the leprosy prevalence to 100,000 cases nationwide. The second objective is to reduce the impact of leprosy disability.

B. Project Approach

2.02 The project would finance the incremental cost of a 6-year time slice of the enhanced national program. IDA would finance 89.7 percent of the increment, net of taxes, of the enhanced program. Details are given in Table 2.1 below.

C. Technical and Policy Features

2.03 The main features and issues of the existing program were discussed in paras. 1.11-1.27, notably inadequacies in coverage, capacity to address disability and effective health education.

2.04 The main features and distinctive technical increments of the proposed enhanced NLEP are: (a) appropriate mix of service delivery mechanisms and enhanced efficiency: integration with the primary health care system where appropriate rather than a solely vertical approach providing a sustainable method of service delivery, while targeting high and intermediate endemicity areas and pockets of infection, and increasing coverage; (b) more effective package of services including disability care; (c) expanded use of appropriate technology such as multidrug therapy; (d) improved quality of services through investments in training and increased non-salary inputs; and (e) more effective community health promotion with increased use of non-formal methods of health education and attention to gender concerns.

Policies on Leprosy

2.05 Ethical Standards. The Lepers Act of 1898 provided for the segregation of people suffering from leprosy. It was enacted on the basis of limited medical knowledge available at that time. The Act perpetuated the stigma and affected the dignity of leprosy patients. Humane treatment of patients is essential for an effective long-term policy for the control of leprosy. It prompts patients to seek treatment rather than hiding and spreading the infection. The Government of India indicated its unequivocal support for the policy of humane treatment of persons affected with leprosy and has repealed the Lepers Act of 1898 in the Union Territories. All States have now repealed the Act.

Table 2.1: NLEP Expenditures
(Rs. Million)

Category of Expenditure	Current Financing (Six-Year Estimate)	Incremental Requirements of the Enhanced Program	Six-Year Total of Enhanced Program
I. Investment Costs			
Civil Works	55.86	0.00	55.86
Furniture	1.20	5.87	7.07
Equipment	35.76	174.88	210.64
Vehicles	121.80	109.80	231.60
Materials & Supplies	45.24	48.09	93.33
Medicines	200.00	387.12	587.12
Workshops & Training	55.20	196.36	251.56
Contractural Services	-	1408.76	1,408.76
Medical/Surgical Services	-	136.88	136.88
Publicity Services	6.00	181.75	187.75
NGO Services	72.00	72.00	144.00
Total Investment Costs	593.06	2721.51	3,314.57
II. Recurrent Costs			
Honoraria	90.00	54.77	144.77
Vehicle Operation & Maintenance	39.00	81.09	120.09
Office Operation & Maintenance	46.20	37.40	83.60
Patients Ex-Gratia Payments	24.00	210.90	234.90
Hospital Services	78.00	0.00	78.00
Salaries	438.00	0.00	438.00
Consumable Materials	7.59	15.08	22.67
Total Recurrent Costs	722.79	399.24	1,122.03
Total BASELINE COSTS	1,315.85 29.7%	3,120.75 70.3%	4,436.60 100.0%
Physical Contingencies	81.57	193.44	275.01
Price Contingencies	202.91	481.23	684.14
Total PROJECT COSTS	1,600.62	3,796.13	5,395.75
US$ Million Equivalent		97.28	
Net of taxes		94.86	
IDA Credit as Percentage of Program Increment		89.65%	
Proposed IDA Credit Amount		85.04	

2.06 Technical Guidelines. Appropriate program approaches were recommended within an integrated action plan for eliminating leprosy in GOI's Report of the Working Group on the Eradication of Leprosy of February 1982 and in the Directorate General of Health Services Guidelines for Multidrug Treatment, NLEP, 1989. During negotiations, GOI provided assurances that it would carry out, and ensure that Project States would carry out, the project in accordance with the NLEP guidelines.

2.07 It is well recognized globally that it is no longer appropriate to keep patients on monotherapy in areas where MDT has been introduced. During negotiations, GOI provided assurances that it would ensure that Project States would discontinue the use of Dapsone monotherapy within 12 months of the availability of multidrug therapy in the concerned project districts.

2.08 Delivery of Services to Indigenous Populations. To help prepare for the project, data has been collected on a block by block basis in addition to the district-level data, and beneficiary assessments were done of tribal people in Madhya Pradesh and Andhra Pradesh who have been beneficiaries of the leprosy program. These assessments and other reviews 1/ of leprosy in the country have generally shown that acceptance, compliance and satisfaction with MDT among indigenous populations are high. The approach to be followed by the project is currently used successfully in various tribal areas of India.

2.09 A plan has been developed by GOI for the delivery of outreach services to tribal populations, that is acceptable to IDA. During negotiations, GOI provided assurances that it would ensure that the Project States would carry out the delivery of services in tribal areas in accordance with the plan agreed with IDA, which inter alia provides for the participation of tribal populations in planning and designing project activities in their communities.

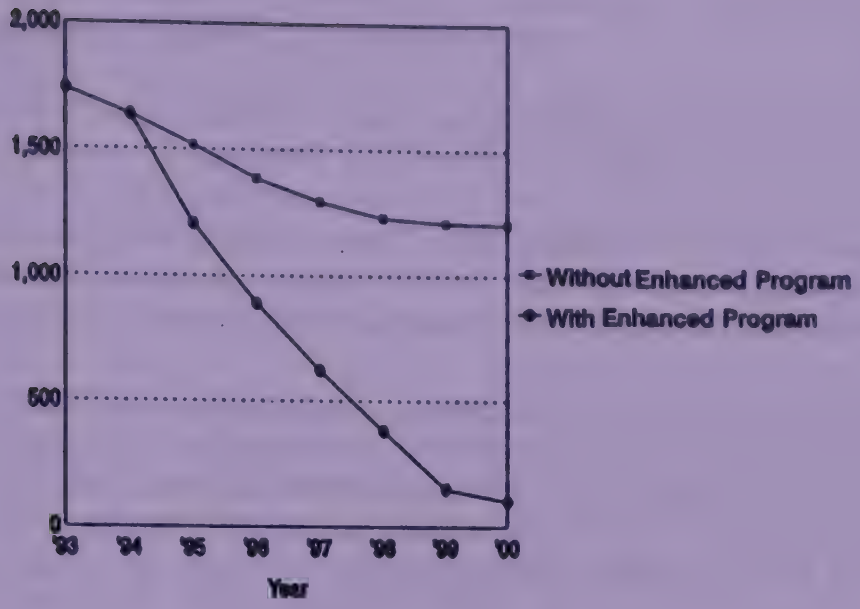
D. Epidemiological Scenario with the Enhanced Program

2.10 The enhanced program would allow significant reductions in both the prevalence and incidence of leprosy so that by the year 2000, the remaining leprosy caseload would decrease to approximately 1 per 10,000 or a total of 100,000 cases (Annex 9). Each year thereafter, approximately 35,000 new cases would appear, the majority of which would be addressed with no major difficulties. Furthermore, the disease spontaneously dissipates in a gradual manner when these low levels of prevalence and transmission are reached. The program's enhancement would thus provide a major thrust towards disease elimination.

2.11 If the enhanced program is not undertaken, progress in leprosy control efforts would continue at a slower rate, necessitating persistent recurrent expenditures. The MOHFW estimates that without the enhanced program, India would have 1.2 million more people with leprosy than it would have if the proposed project is successful. With extensive geographical areas remaining uncovered by MDT, a significant pool of infection and active transmission would continue, and leprosy would remain a public health problem.

1/ The frequency rates of leprosy are about three times less among tribal communities compared to non-tribal and less secluded ones.

Expected Leprosy Cases
(in 1,000s)



E. Project Description

2.12 As stated previously, the project would finance the incremental cost of a 6-year time slice of the enhanced NLEP. The sections below describe the particular enhancements that would be the main features of the improved NLEP. These involve expansion of MDT, integration into the general health care system where appropriate and strengthening of NLEP supporting mechanisms. The project builds upon technical strategies recommended by WHO.

EXPANSION OF MULTIDRUG THERAPY THROUGH A VERTICAL STRUCTURE (US$80.9 million: 59%) 1/

2.13 The project would continue the support of MDT provision in 135 districts selected on the basis of disease endemicity and where this intervention has been successfully implemented with a separate cadre of health personnel, and would also provide services through a temporary vertical structure in about 66 highly endemic districts (Annex 10) where leprosy prevalence exceeds 5 per thousand. A main objective in these districts would be to provide MDT and other leprosy services to existing and newly detected cases.

2.14 Implementation responsibilities are discussed in paras. 3.09-3.18. MDT provision would have a preparatory and an implementation phase. The preparatory phase would include:

(a) Deployment of health personnel including recruitment, placement and training of staff in each of the 66 districts. Personnel would be assigned to the new districts by the District Leprosy Societies on a contract basis (para 3.29) based on an assessment of manpower needs for each individual district. An average of 100

1/ This and subsequent references to outlays are base cost estimates only.

persons would be required per district. Staffing would include 70 to 80 health workers, 8 non-medical supervisors, 6 drivers, 4 messengers, 5 laboratory technicians, 1 physiotherapist, 1 health educator and 4 medical officers. The average worker salary would be Rs. 2,000 per month and Rs. 2,400 for technicians.

(b) Segmentation of each district by distance to establish service delivery circuits as shown in Annex 11. Drug delivery points would be identified with the participation of the beneficiary community for setting up the clinics/drug delivery points, often in the open-air. The route would be charted on the basis of accessibility and convenience of leprosy patients.

(c) Rapid surveys of unit areas for case identification. Rapid surveys would be conducted during the preparatory phase to detect, screen and register all possible cases for treatment with MDT. To ensure that female patients are not overlooked, female workers would be used for survey work as much as possible, females would be given priority in recruitment, and training would emphasize identification of females. Identified patients would then be screened to classify them as multibacillary or paucibacillary and case cards would be prepared for each patient. Household members of identified patients would also be examined for the disease.

2.15 The implementation phase would include:

(a) Service Delivery and Administration of MDT. Service delivery would take place at pre-identified facilities and through mobile units as described above. Once a month, patients would receive pulse therapy, a supervised intake of medicine. The drug collection day is referred to as the "pulse day". The use of drugs packaged in calendar blisterpacks would facilitate the patients daily intake of medicines and therefore increase treatment compliance.

(b) Active patient surveillance, whereby leprosy workers seek out released patients following a set of guidelines to ensure complete cure and detection of possible relapse.

(c) Ulcer care and patient health education, which are carried out by the health personnel concurrently with the administration of MDT.

INTEGRATION OF MULTIDRUG THERAPY INTO THE PRIMARY HEALTH CARE SYSTEM (US$22.3 million; 16%)

2.16 The project would provide MDT through the existing primary health care system in about 77 moderately endemic districts (Annex 12) and in pockets of infection within the remaining low endemicity regions of the country, which are equivalent to about 20 districts for planning and budgeting purposes. The prevalence rate in these intermediate-endemicity areas varies between 2 and 5 per thousand or about 5,000 to 6,000 cases per district.

2.17 Such intermediate rates do not justify the establishment of a vertical structure as management of leprosy cases can be handled by the general health staff. Leprosy detection and treatment in these areas would be part of the regular duties and field work of PHC personnel with medical officers responsible for disease confirmation. Provision of care would follow the same working methodology and protocols of the vertical program. Service delivery through the primary health care system has been denominated as the Modified MDT Plan (MMDT).

2.18 The Chief Medical Officer at the District Level would be responsible for monitoring implementation of control activities. MDT would be provided by PHC personnel instead of leprosy workers. In order to strengthen district capabilities during the intensive control phase, the project would provide a limited amount of additional staff, hired on a fixed-term basis for the duration of the project. For each of the 77 moderate endemicity districts and the 20 pocket districts, this staff would include 1 medical officer, 10 to 17 non-medical supervisors, 2 health education officers, 1 physiotherapist, 1 or 2 laboratory technicians, 2 accountant/store keepers and 1 driver.

2.19 It should be noted that management of leprosy control activities are part of the primary health care staff's standard training. In order to facilitate their participation in the integrated program, health staff would be offered a refresher course on leprosy detection and treatment and given honoraria for additional work and certificates of merit.

DISABILITY CARE AND PREVENTION (US$7.9 million; 6%)

2.20 For minimizing the impact of leprosy disability in the community, disablements would be prevented at early stages of disease to the maximum extent possible. Disability prevention would include: (a) reducing the occurrence of impairments (first-level prevention); (b) limiting or reversing disability caused by impairments (second-level prevention); and (c) preventing disabilities from developing into handicaps (third-level prevention).

2.21 The project would promote disability prevention and care at three levels. First level prevention would be emphasized to prevent the development of disability through health education messages and the use of appropriate materials, such as microcellular rubber sandals which can prevent foot ulcers. Second-level prevention includes ulcer care, soaking or hydrotherapy routines, corticosteroid treatment, use of splints and zinc oxide tapes, physical exercises and regular massage with oil. 1/ Third-level prevention of handicaps would involve reconstructive surgery for correcting gross deformities that have already developed. Surgery would be undertaken in selected health facilities (Annex 13). Provision would be made for 200 reconstructive surgery operations in the project period per district. Patients with irreversible deformities who are not fit for surgery would

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1/ Any locally available oils such as groundnut oil or Neem oil can be used. Some of the oils have the added benefit of being insect repellents.

receive modulan 1/ aids to allow the use of deformed limbs. The need for reconstructive surgery is currently declining in new cases and will decrease further with the expansion of MDT.

PROMOTING PUBLIC AWARENESS AND COMMUNITY PARTICIPATION (US$12.4 million; 9%)

2.22 Promoting public awareness would attenuate old myths and exaggerated fears of leprosy. Fighting prejudice and fear is an integral part of the fight against leprosy. The cardinal importance of early treatment would be stressed in all health messages.

2.23 Information, education and communication (IEC) activities would be channelled through three main avenues: community awareness camps, mass media, and extension education to individuals and small groups. These activities, planned with the findings from existing knowledge, attitudes and practices studies, would contribute to promoting attitudinal changes and encouraging self-reporting with a special focus on female patients.

2.24 Orientation of community leaders and community awareness camps - called Orientation Training Camps (OTC) - would be held in villages according to a yearly plan to involve the community in leprosy control. This camp approach is to hold a festival with impromptu performances encouraged, and healed patients participating as community motivators. This approach promotes communication not only between the system and the community, but also between the workers themselves and different communities. Opinion leaders would include the Panchayats and other local officials, medical officers working in fields other than leprosy, private practitioners, multipurpose health staff, Anganwadi workers, teachers, and volunteers of the National Scouts Service. Promoting community participation ultimately reduces the dependance on a limited number of outreach health service providers and enhances self-reliance and responsibility.

2.25 Community awareness camps facilitate the orientation of community opinion leaders. The purpose of this orientation would be to provide information about the disease and its treatment, prepare communities to manage the ongoing care and social rehabilitation of patients with deformities, and encourage early identification and compliance to drug therapy.

2.26 Mass media would be used to further advance community awareness about leprosy. Social advertising would be carried out through television, radio, cinema slides, billboards and wall paintings, and in magazines and newspapers. Other media outreach would use films, fairs, and festivals. Folk media services, including drama, song, puppets, dance and poetry would also be used.

2.27 Extension education would be carried out by both health educators and health workers to reinforce awareness and encourage appropriate behavioral modifications. Education activities would target patients, their families and

1/ Paste which is molded around patients limbs then hardened. Modulan is very effective in allowing patients to use utensils and simple working tools.

their communities. For the patient's family, education would aim to ensure completion of treatment, and to promote cooperation in contact surveys and social acceptance of the patient. For the community, the objective is to reduce the social stigma and facilitate early detection. Patient education would include instructions for adhering to drug treatment and surveillance, performing physiotherapy exercises, and early reporting of reactions. Staff would also provide patients with counseling and encouragement for social rehabilitation. In all of these activities, cured patients would serve as spokespeople for the effectiveness of leprosy treatment. Education kits would be used by health workers and would include attractively designed and pre-tested materials such as flip charts, photographs of the signs of leprosy, diagnostic cards, information pamphlets, comics or story books, and picture books for non-literates. `Child-to-child' health promotion would be enhanced and children would learn how to examine each other for leprosy skin patches and to inform friends and family about the disease. This would contribute to creating community volunteers.

ENHANCING SKILLS AND INSTITUTIONAL DEVELOPMENT (US$12.6 million: 9%)

2.28 The project would provide short term training to 160,000 persons as summarized in Annex 14. The training strategy calls for initial training to be conducted by mobile training teams, each consisting of three leprosy specialists. These experts would be oriented in a three-day workshop at the national level.

2.29 Training of NLEP staff in high-endemicity districts would take place in the first two years of implementation. The following NLEP staff would receive orientation in each district: 80 paramedical workers, 16 non-medical supervisors, 5 medical officers, 1 District Leprosy Officer, 5 laboratory technicians, 1 physiotherapist, 1 health educator, and 1 District Consultant. These staff members would be divided into two groups of 50 for orientation. This orientation would consist of a 5-day course focusing on identification and standards of practice for MDT conducted by the mobile training teams.

2.30 Beginning in the fourth year of the project, training of PHC staff would be undertaken to facilitate the integration of leprosy control activities into the regular health services. Mobile training teams would conduct 5-day refresher courses for medical officers of the primary health centers. As leprosy is part of the basic curriculum studied by all medical officers, these refresher courses would serve to update their information. In addition, specialized training in ulcer care and patient management would be given as well as instructions for training multipurpose workers in leprosy activities. In the fifth year of the project, the medical officers would conduct 2-day training sessions for the multipurpose workers of the primary health centers to instruct them in their role in leprosy control.

2.31 Training of primary health care staff in intermediate-endemicity districts would be held for medical officers of Primary Health Centers and district-level NLEP officials. District level officials, including the Chief Medical Officer and the District Leprosy Officer, would undergo orientation at district headquarters. Medical officers would participate in a 5-day training session conducted by the mobile training units which would update them on MDT

implementation and enable them to train the multipurpose staff working in their districts. They would receive guidelines on MDT and manuals for multipurpose staff in English and local languages. Training of multipurpose workers would take place at the district headquarters.

2.32 Training of primary health care staff would also be undertaken in the geographic pockets of infection which contain 7 percent of the nation's leprosy caseload. In these pockets, the mobile training teams would orient district level officers and the PHC medical officers, who would then train the multipurpose staff. It would not be necessary to train all of the Medical Officers in the 177 districts within which these pockets are located.

2.33 In the 135 high-endemicity districts where MDT is already being provided under a vertical infrastructure, NLEP staff have already been trained in MDT delivery. These staff members would only receive training in disability care and prevention.

2.34 Central coordination and monitoring of national control activities are adequate under the current work load. However, in order to cope with the proposed enhanced activities, GOI is planning to strengthen the Central Coordination Cell and WHO is planning to provide additional technical assistance to its current ongoing support. The project would also provide support to develop training capabilities and outreach patient care activities in the main Leprosy Training and Research Institutes in Raipur, Chengalput, Agra, Aska and Gouripur. Other institutional development inputs are included with other project components discussed previously.

2.35 In order to implement the project, IDA proceeds would be used to finance the following inputs: contractual services for health personnel, anti-leprosy medicines, vehicles, medical and office equipment, medical material and supplies, publicity services, medical/surgical services for reconstructive surgery, training and workshops, incremental vehicle operating and maintenance costs and honoraria.

III. COSTS, FINANCING, IMPLEMENTATION AND DISBURSEMENTS

A. Costs

3.01 Summary of Costs. The total cost of the enhanced program over a six-year period, including import duties and taxes, is estimated at about Rs. 5,395.7 million or US$138.3 million equivalent. Taxes and duties would be about Rs. 133.3 million or US$3.4 million equivalent. The breakdown of costs by component and by categories of expenditure is summarized in Tables 3.1 and 3.2 respectively. Detailed costs by component, categories of expenditure, and year are given in Annex 15.

Table 3.1: Cost by Component

Component	(Rupee Million) Local	Foreign	Total	(US$ Million) Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
Vertical Multi-Drug Therapy	2320.9	315.99	2636.89	71.19	9.69	80.89	12	59
Integration of Multi-Drug Therapy thru PHC	638.45	86.92	725.37	19.58	2.67	22.25	12	16
Disability Care & Prevention	202.69	56.53	259.21	6.22	1.73	7.95	22	6
Promoting Public Awareness	381.48	24.46	405.94	11.7	0.75	12.45	6	9
Enhancing Skills & Institutional Development	386.35	22.83	409.18	11.85	0.7	12.55	6	9
Total BASELINE COSTS	3929.85	506.74	4436.59	120.55	15.54	136.09	11	100
Physical Contingencies	230.72	44.29	275.01	7.08	1.36	8.44	16	6
Price Contingencies	527.06	157.08	684.14	-7.56	1.31	-6.26	-21	-5
Total PROJECT COSTS	4687.63	708.1	5395.74	120.06	18.21	138.27	13	102

NOTE: Inclusive of taxes and duties estimated at US$3.44 million

Table 3.2: Costs by Categories of Expenditure

Category of Expenditure	(Rupee Million) Local	Foreign	Total	(US$ Million) Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
I. Investment Costs								
Civil Works	50.83	5.03	55.86	1.56	0.15	1.71	9	1
Furniture	6.43	0.64	7.07	0.2	0.02	0.22	9	0
Equipment	147.45	63.19	210.64	4.52	1.94	6.46	30	5
Vehicles	162.12	69.48	231.6	4.97	2.13	7.1	30	5
Materials & Supplies	88.66	4.67	93.33	2.72	0.14	2.86	5	2
Medicines	352.27	234.85	587.12	10.81	7.2	18.01	40	13
Workshops	82.09	0	82.09	2.52	0	2.52	0	2
Contractural Services	1338.32	70.44	1408.76	41.05	2.16	43.21	5	32
Medical/Surgical Services	116.34	20.53	136.88	3.57	0.63	4.2	15	3
Training	169.47	0	169.47	5.2	0	5.2	0	4
Publicity Services	168.98	18.77	187.75	5.18	0.58	5.76	10	4
NGO Services	144	0	144	4.42	0	4.42	0	3
Total Investment Costs	2826.97	487.59	3314.56	86.72	14.96	101.67	15	75
II. Recurrent Costs								
Honoraria	144.77	0	144.77	4.44	0	4.44	0	3
Vehicle Operation & Maintenance	102.08	18.01	120.09	3.13	0.55	3.68	15	3
Office Operation & Maintenance	83.6	0	83.6	2.56	0	2.56	0	2
Patients Ex-Gratia Payments	234.9	0	234.9	7.21	0	7.21	0	5
Hospital Services	78	0	78	2.39	0	2.39	0	2
Salaries	438	0	438	13.44	0	13.44	0	10
Consumable Materials	21.54	1.13	22.67	0.66	0.03	0.7	5	1
Total Recurrent Costs	1102.88	19.15	1122.03	33.83	0.59	34.42	2	25
Total BASELINE COSTS	3929.85	506.74	4436.59	120.55	15.54	136.09	11	100
Physical Contingencies	230.72	44.29	275.01	7.08	1.36	8.44	16	6
Price Contingencies	527.06	157.08	684.14	-7.56	1.31	-6.26	-21	-5
Total PROJECT COSTS	4687.63	708.10	5395.73	120.06	18.21	138.27	13	102

3.02 Contingency Allowances. Costs include physical contingencies (US$5.2 million) estimated at 10% of physical expenditures and 5% for contractual services and maintenance, and price contingencies at the following rates: foreign costs 3.1% from Calendar Year (CY) 93 through CY2000; and local costs 8.0% in CY93, 7.0% in CY94, 6.0% in CY95, 5.5% in CY96, 5% in CY97 to CY2000.

3.03 Foreign Exchange Component. The estimated foreign exchange component of US$18.2 million is calculated on the basis of estimated foreign exchange proportions as follows: medicines: 30%; medical materials and supplies: 5%; vehicles: 30%; equipment: 30%; medical/surgical services: 15%; contractual services: 5%; publicity services: 10%; vehicle operation and maintenance: 15%.

B. Financing Plan

3.04 The project would be a centrally sponsored scheme. The Government of India expenditure on leprosy has been about Rs. 1,600.6 million over the last six years. The total cost of the enhanced program for the next 6 years would be Rs. 5,395.8 million (US$138.3 million equivalent). IDA would finance 61.5% of the total cost of the program over the next six years, which is equivalent to 89.7% of the increment or US$85.0 million, net of taxes, of the enhanced program over the program of the past six years. GOI would finance 38.5% of the total program cost or US$53.3 million equivalent. This would include all taxes, estimated at US$3.4 million equivalent. The NLEP finances a broad range of activities. As noted earlier, the proceeds of the IDA credit of US$85 million equivalent would be used to finance contractual services for health personnel, anti-leprosy medicines, vehicles, training and workshops, medical and office equipment, medical material and supplies, publicity services, medical/surgical services and incremental vehicle operating costs and honoraria.

C. Sustainability

3.05 The additional recurrent costs generated by the enhanced interventions would average Rs. 81 million per year (US$2.1 million equivalent). This would be only 3 percent of the present Union recurrent expenditure (Rs. 2,660 million) on health annually. At project completion, there would be a net reduction in annual expenditures on leprosy due to the completion of the intensive phase of control activities by the Government and the dissipation of the leprosy caseload.

3.06 GOI has expressed its intent to improve expenditures on health and has done so in its latest budget for FY94. The States contribute to the NLEP mainly by maintaining the current infrastructure. By virtue of the design of the project, and the fact that it is centrally sponsored, the project would not have an impact on the recurrent costs of State expenditures. Many project assisted services would also be contractual, to limit long-term liabilities on the Government. Moreover, the project would start the transition from a vertical monopurpose service to an integrated delivery through the general health system in areas where the disease burden has declined to moderate levels, which will reduce costs by utilizing existing resources to a greater extent. At negotiations, GOI provided assurances that it would by December 31, 1997, discuss with IDA options for the future utilization of the staff assigned to the

NLEP, duly taking into account the findings of the mid-term review of project implementation.

3.07 MDT and New Treatments. The average cost of MDT per patient per year in India is currently Rs. 100 (US$3.00 equivalent), with about 75 percent of all patients undergoing treatment for 6 months and the remaining 25 percent requiring two years of therapy for the multibacillary form of the disease. At present, WHO is undertaking large scale field trials of a new antibiotic treatment consisting of a combination of two drugs: Ofloxacin and Rifampicin. The main advantage of this treatment is its proposed shortened duration of only four weeks. The current cost of this treatment is Rs. 800 (US$24.5) per patient per course.

3.08 So far, MDT has proven worldwide to be the most effective treatment for leprosy, while the new treatment is still in an experimental stage. The project therefore would use MDT. However, the project would provide flexibility to adapt to this new treatment and any other state of the art developments which may take place during the project period. Such decisions would be based on technological advances and cost effectiveness.

D. Implementation

3.09 Project implementation would be coordinated by the Central Leprosy Coordination Unit of the Union Ministry of Health & Family Welfare in Delhi. The project would be implemented through the existing health care infrastructure of the Union and State Departments of Health, and the District Leprosy Societies.

(a) Role of the Union Government. GOI would coordinate the project, monitor its progress and observe the implementation of central policies and technical guidelines. It would carry out procurement of multidrug therapy, medical equipment, and mass media services. GOI would pass to the States and Union Territories (UTs) the goods procured and would bear the entire project costs borne by the States and UTs.

(b) State 1/ Role.

(i) The State Departments of Health 2/ would be responsible for programming and monitoring implementation of project activities in the States. The Departments of Health are represented on the District Leprosy Societies discussed below. A condition of disbursement for expenditures incurred by 13 States, in which major project components would be implemented, would be that such States would furnish to IDA a Letter of Undertaking, with form and content acceptable to IDA, which would outline how each State would carry its part of the project in accordance with the guidelines and policies of the NLEP.

1/ State - State/Union Territory.

2/ Health is a State subject under the constitution of India.

(ii) District Leprosy Societies. Implementation at the district level would be managed by the District Leprosy Societies (para. 1.12) according to State work plans that are in general conformity with the priorities and strategies defined by GOI. The Societies are chaired by the District Collector, and include the Chief Medical Officer as Vice Chairman, the District Leprosy Officer as Secretary, Deputy Director of Social Welfare and NGO Representative. The Societies would be responsible for engaging the contractual services of health workers, organizing medical/surgical services for reconstructive surgery, procuring local publicity services, vehicles, office equipment, disability and health education supplies and supportive medicines. During negotiations, GOI provided assurances that it would obtain or ensure that Project States would obtain, from each District Leprosy Society which carries out the project, an undertaking, with form and content acceptable to IDA, regarding the carrying out of the project by such Society.

3.10 Project Management. Since the existing program management framework of NLEP has proven effective in advancing leprosy control in India, the same organizational set-up would be maintained at the Center for the proposed project while providing for the institutional strengthening of the Central Coordination Cell in order to deal with the additional activities. The Deputy Director General of Health Services for Leprosy would be the Project Director and would be responsible for overseeing the overall implementation of the project, liaison with IDA, allocation of funds to States and District Leprosy Societies, central procurement, maintenance of accounts, updating annual work plans in consultation with the States and annual progress review.

3.11 At the field level, the organizational approach would be as follows:

NLEP Services	Integrated General Services
State Leprosy Officer	Director of Health Services
District Leprosy Officer	Chief Medical Officer
Medical Officer Leprosy Control Unit per 500,000 people	N. A.
Non-Medical Supervisor per 100,000 people	Medical Officer Community Health Center per 100,000 people
Paramedical Worker per 20,000 to 25,000 people	Medical Officer Primary Health Center per 30,000 people

3.12 Status of Preparation. Preparation is in an advanced stage and new interventions have been initiated in 18 districts (para. 3.14). Project preparation was initiated by the Government of India and the States in 1991 and was coordinated by the Deputy Director General of Health Services of the Union Ministry of Health & Family Welfare. WHO and DANIDA were consulted and provided technical assistance. SIDA assisted in updating leprosy registers and rapid surveys in selected districts of Bihar, Uttar Pradesh, Madhya Pradesh, Orissa and Kerala. Special teams from Andhra Pradesh, Bombay Leprosy Project and the Leprosy Mission assisted in the State of Bihar.

3.13 Technical guidelines, organizational plans, training plans, recruitment modality of health personnel, list of institutions for medical/surgical services, health information modalities, lists of equipment and supplies, and monitoring indicators have been prepared. Standard bid documents for ICB would be used by the Directorate General of Supply & Disposal for the procurement of calendar blisterpack multidrug therapy.

3.14 To initiate the project, GOI sanctioned in January 1993, the introduction of MDT schemes in 18 new high endemicity districts in the States of Uttar Pradesh and Madhya Pradesh and funds were released to their District Leprosy Societies. The districts are Gonda, Gorakhpur, Basti, Fatehpur, Etawah, Rampur, Shahjahanpur, Lucknow, Unnao, Bareilly, Banda, Hamirpur, Jalaun and Badaun in Uttar Pradesh; and Jabalpur, Khandwa, Satna and Chattarpur in Madhya Pradesh.

3.15 Center and State Coordination for Start-Up. The States/UTs have been involved in the NLEP to date and in the preparation of intensified activities. The strategy of the proposed project was reviewed at the Health Secretaries level during a health coordination meeting held by the Union and State Health Secretaries on January 20 and 21, 1993.

3.16 Coordination with other Program Participants. A coordination meeting was held on February 3, 1993, between IDA's Appraisal Mission and Representatives of GOI, DANIDA, SIDA, NORAD and WHO to review the proposed plans. It was agreed to collaborate during the annual and mid-term reviews of the project. Various NGOs were also consulted during project preparation.

3.17 Non-Governmental Organizations. The NLEP would continue to provide support to NGOs for leprosy control activities. NGOs have broad access to the communities in which they are located, and are often considered as `trusted insiders.' NGO activities include case detection, case treatment, staff training, health education, disability prevention and rehabilitation training as well as reconstructive surgery.

3.18 Past assistance to NGOs by the Union Government was about Rs. 72 million over six years. GOI would provide an additional equal amount aggregating at Rs. 144 million during the enhanced program period but would avoid even larger increases of NGO funding so as not to displace private fund-raising efforts.

E. Monitoring

3.19 Project Monitoring. Epidemiological indicators which would be monitored have been agreed with the Government. Solid baseline data is already available. Progress and outcome indicators can be measured. Essential monitoring indicators are discussed in Annex 16 and include rates of prevalence, detection, cure and relapse, disabilities among newly detected cases and MDT coverage. Monitoring of implementation progress would include the positioning of human infrastructure, the supply of drugs, vehicles and materials. In addition to field visits, monthly meetings would be held at the district level for medical officers and at the unit level for paramedical workers to discuss monthly reports, achievements and arising issues. During negotiations, the Government of India provided assurances that it would review, and ensure that

Project States would review with IDA by December 31 each year, the progress of project implementation over the preceding twelve months and an annual work plan for the next twelve months.

3.20 A Mid-Term Review would be carried out in the fourth year of project implementation. The WHO and principal donor agencies would be invited to participate in reviewing strategic, operational and technical aspects of the project. GOI and IDA would also review managerial and financial aspects of the project. A protocol for the evaluation would be developed six months prior to the review in collaboration with WHO. The findings and recommendations of the mid-term review would assist GOI in future programming of control interventions. During negotiations, the Government of India provided assurances that it would carry out, and ensure that Project States would carry out with IDA, a mid-term review of project implementation, prior to July 31, 1997, and would take into account comments and suggestions made by IDA at such review during project implementation thereafter.

3.21 IDA Supervision Plan. A main strategy for field supervision would be to compare project implementation issues arising in vertical service delivery settings with those of the integrated model. IDA supervision teams would collaborate with WHO visiting teams and resident technical experts. WHO would also share with IDA its findings of the yearly NLEP review. Supervision missions would liaise with major NLEP participants, who would be invited to participate in the mid-term review. The World Bank Resident Mission would participate in (a) liaising with the Government and providing operational support; and in (ii) procurement, disbursements and auditing matters and follow-up. The skills required during supervision are shown in Annex 17.

F. Disbursements

3.22 Disbursement Percentages. The IDA Credit would be disbursed against 100% of foreign CIF and local ex-factory costs and 80% of other local costs of anti-leprosy medicines, medical and office equipment, materials and supplies, and vehicles; 100% of medical/surgical services, training and workshops; 85% of contractual services and publicity services; and 50% of incremental operation of vehicles and honoraria.

3.23 Disbursement Profile. The proposed credit would be disbursed over seven years, which conforms with the standard profile of IDA-assisted population, health and nutrition projects in India. The IDA-assisted interventions are expected to be completed on September 30, 1999, and the Credit closed on March 31, 2000. Annex 18 shows forecasts of expenditures and disbursements.

3.24 Required Documentation. Disbursements for contractual services, training, medical/surgical services, publicity services and goods under contracts valued less than US$100,000 equivalent, and for incremental 1/

1/ The term incremental operation and maintenance costs of vehicles means the cost incurred by a Project State for the operation and maintenance of vehicles for the purposes of implementing the Project in excess of the costs under the NLEP in FY92-93.

vehicle operating costs and honoraria, would be made against statements of expenditure (SOEs). Documentation in support of SOEs would be retained by the States and the District Leprosy Societies for expenditures incurred by the States, and by the Union MOHFW for expenditures incurred by the Center. This documentation would be subject to annual audit and made available for review by IDA supervision missions. All other disbursements would be made against fully documented withdrawal applications.

3.25 Special Account. In order to accelerate disbursements and to provide for direct payment of eligible expenditures, a Special Account would be maintained in the Reserve Bank of India with an authorized allocation of US$3.0 million, equivalent to three months of estimated disbursements.

3.26 Retroactive Financing. In order to facilitate a timely project start, retroactive financing up to US$3.0 million equivalent, or 3.5 percent of the proposed credit, would be provided to cover eligible expenditures incurred after March 31, 1993. Procurement arrangements, as well as the purposes for which the items would be used, were reviewed and found appropriate.

G. Procurement

3.27 Procurement arrangements are summarized in Table 3.3 which summarizes the NLEP elements and their estimated costs and proposed methods of procurement. The Directorate General of Supply and Disposal (DGS&D) would handle bulk procurement of anti-leprosy medicines and medical equipment under ICB and LCB procedures acceptable to IDA. Bank Standard Bidding Documents would be used. Calendar blisterpack anti-leprosy medicines estimated to cost US$13.8 million would be procured through ICB procedures. Other anti-leprosy medicines estimated at US$5.3 million would be procured under local shopping procedures in packages under US$100,000 by GOI through the Medical Services Organization (MSO) of the Union Ministry of Health. Supportive medicines, such as ointments, estimated at US$1.9 million would be procured by the District Leprosy Societies through off the shelf local shopping in packages valued below US$10,000 equivalent each.

3.28 Medical equipment aggregating at US$2.0 million would be procured through LCB procedures acceptable to IDA in contracts valued below US$200,000 equivalent each. Office and medical equipment estimated to cost less than the equivalent of US$100,000 per contract, up to an aggregate amount of US$5.3 million equivalent, would be procured under local shopping procedures. Materials and supplies estimated at US$1.5 million equivalent would be procured under local shopping procedures in packages below US$100,000 equivalent each. Other materials and supplies including disability care materials aggregating at US$1.7 million equivalent would be procured through off the shelf local shopping in packages valued below US$50,000 equivalent each.

Table 3.3: Procurement Arrangements
(US$ Million)

	Procurement Method				
	International Competitive Bidding	Local Competitive Bidding	Other	N.B.F.	Total
Equipment	-	2.00 (1.80)	5.33 (4.80)	-	7.33 (6.60)
Vehicles	-	-	7.89 (2.36)	-	7.89 (2.36)
Materials & Supplies	-	-	3.23 (2.90)	-	3.23 (2.90)
Medicines	13.77 (12.39)	-	7.16 (6.44)	-	20.93 (18.84)
Workshops & Training	-	-	8.17 (8.17)	-	8.17 (8.17)
Contractural Services	-	-	37.97 (32.15)	-	37.97 (32.15)
Medical/Surgical Services	-	-	4.53 (4.53)	-	4.53 (4.53)
Publicity Services	-	-	6.18 (5.22)	-	6.18 (5.22)
Honoraria	-	-	4.51 (2.25)	-	4.51 (2.25)
Vehicle Operation & Maintenance	-	-	3.99 (2.00)	-	3.99 (2.00)
Civil Works	-	-	-	1.87	1.87
Furniture	-	-	-	0.24	0.24
NGO Services	-	-	-	4.74	4.74
Office Operation & Maintenance	-	-	-	2.75	2.75
Patient Ex-Gratia	-	-	-	6.24	6.24
Hospital Services	-	-	-	2.55	2.55
Salaries	-	-	-	14.39	14.39
Consumable Materials	-	-	-	0.78	0.78
Total	13.77 (12.39)	2.00 (1.80)	88.96 (70.82)	33.56 -	138.29 (85.00)

Notes:
- Figures in parenthesis are the respective amounts financed by IDA.
- For ease of reference, the categories against which IDA proceeds would be disbursed are shown on the upper part of the table.
- N.B.F.: Not Bank Financed.

3.29 Contractual services of health personnel participating in the project (US$38 million), medical/surgical services for reconstructive surgery (US$4.5 million), and publicity services (US$6.2 million) would be procured on the basis of criteria and procedures satisfactory to IDA. Contractual services would be advertised by the District Leprosy Societies in newspapers and with local self-government institutions and voluntary agencies. The selection Committee would consist of the State Leprosy Officer, Chief Medical Officer, District Leprosy Officer and NLEP Consultant. Services would be engaged on contract basis through letters of appointment issued by the District Leprosy Society to the individual worker. The contracts clearly specify the terms and conditions of the appointment. Appointments would be made for a period of three years and would be renewable one year at a time, subject to satisfactory performance. Fixed payments in Rs. would be made by the District Leprosy Society on a monthly basis. The fixed-term assignment would not confer any right for regular public sector appointment. Services can be terminated with one month notice on either side. GOI has confirmed that the arrangements for engaging these contractual services are consistent with applicable laws and regulations governing the employment of contractual labor.

3.30 Publicity services for mass media would be procured by GOI and the States directly from the Ministry of Information's radio and television stations. The rates that would be used would not exceed the standard rate of charges to other advertisers. Folk media and community awareness and orientation camps (para. 2.24-2.27) would be procured by the District Leprosy Societies through direct contracting from local artists. Advertising through cinema slides slots, billboards and newspapers would be procured through direct contracting. All publicity services contracts are estimated to cost less than US$100,000 equivalent each.

3.31 Medical/surgical services for reconstructive surgery estimated to cost less than the equivalent of US$50,000 per contract would be procured by the District Leprosy Societies under contracts awarded to designated health care facilities (Annex 13) selected for their suitability to perform such services. Provision has been made for 200 operations per district in endemic areas during the project period with a flat rate of Rs. 2,300 per case.

3.32 In order to facilitate project start-up, the proceeds of the IDA Credit would be used to procure 30 percent (US$2.4 million or about 320 vehicles) of the total NLEP vehicle requirements of about US$7.9 million, under local shopping procedures in packages below US$100,000 equivalent each. Vehicles would be promptly needed to start service delivery and would be dispersed throughout remote areas of the country. The remaining balance of US$5.5 million or 70 percent of the total new and replacement vehicle requirements would be borne by the Government.

3.33 For comparing foreign and local bids in ICB, qualifying domestic suppliers would be allowed a margin of preference equal to the existing rate of customs duty applicable to competing imports or 15% of CIF price, whichever is lower. Items procured under ICB procedures, as well as the first three LCB contracts for equipment would be subject to IDA's prior review.

H. Accounting and Auditing

3.34 Expenditures incurred by the Center and by each participating State and Union Territory would be subject to the normal GOI and the participants' accounting and auditing procedures, with the added requirement that MOHFW would maintain a separate account for the Project. At the Center, State, and District Leprosy Societies, a record of project transactions would be maintained with appropriate support documentation for the transactions.

3.35 Audits of Central, State and District Leprosy Society accounts, the Special Account and financial statements of the project including a separate opinion on Statements of expenditures (SOE), would be subject to normal GOI accounting and auditing procedures which are satisfactory to IDA. Documentation supporting SOEs would be maintained at least one year after the completion of the audit for the fiscal year in which the last withdrawal was made. The Special Account would show all withdrawal requests disbursed, amounts advanced and reimbursed by IDA, and balance at the end of each accounting period. A Central consolidated audit report would be submitted to IDA not later than nine months after the end of each financial year. The audit will cover all project expenditures until such time as the Credit has been closed.

IV. BENEFITS AND RISKS

A. Benefits

4.01 The project would enable India to eliminate leprosy as a national public health problem by the turn of the century. The project would eliminate the disease in 2.2 million people currently with leprosy and in 1.8 million new cases, treating a total of 4 million people. The project would decrease the occurrence of disability, alleviating human suffering, economic loss and the social burden and stigma of the disease. Leprosy control generates high positive externalities. The project would have a high social return in terms of healthy life years saved.

4.02 Program Objective Categories: Poverty Aspects. The impact of leprosy is highest in the poorer segments of the population since they have the least access to health care. The project would reach underprivileged communities, and of the 4 million people to be affected by the project, it is estimated that 2.4 million people or about 60 percent would be living below GOI poverty line.

4.03 Women In Development Aspects. The project would benefit about 1.6 million women and reduce the current gaps in the coverage and treatment of women with leprosy. It would emphasize non-formal health education at the grass roots level, and would highlight the identification of female patients. The benefits of health information, education and communication would contribute to reducing social discrimination affecting women. Indigenous Populations. In the high endemicity districts where outreach services would be expanded, the tribal population is 9 million people (6.5%) out of a total of 139.4 million. These tribal groups would benefit from the project and would participate in planning the delivery of outreach services and multidrug circuits in their communities. In intermediate endemicity districts, where leprosy control is integrated in the

general health system with no outreach services, the tribal population is 13.7 million (9.1%) out of a total of 150 million people.

B. Risks

4.04 There are some risks to the project. First, there is a risk that the Union Government may not be able to facilitate local implementation of all control activities. This will be addressed by up-front State commitment to project implementation through Letters of Undertaking, by providing the States with Leprosy Consultants, and by encouraging continuous State involvement in planning and evaluating project activities through regular workshops and increased local training. The project would foster local involvement by further developing the implementation role of the District Leprosy Societies, which have been effective in advancing leprosy control efforts in India. Second, there is a risk that primary health care staff may not be sufficiently motivated to fulfill leprosy responsibilities in the integrated model of service delivery. This would be addressed by selecting moderate prevalence areas for this model of service delivery, and through the provision of inservice training and incentives for performance. Third, there are the usual risks of poor use of project investments by a Borrower whose implementation record is mixed. These will be addressed by the careful preparation of implementation arrangements and the use of WHO resident technical assistance for project monitoring.

V. AGREEMENTS REACHED AND RECOMMENDATIONS

5.01 At negotiations, the Government of India provided assurances that it would:

(a) carry out, and ensure that Project States would carry out, the project in accordance with the Guidelines of the Directorate General of Health Services for Multidrug Treatment, NLEP, 1989 (para. 2.06);

(b) ensure that Project States would discontinue the use of Dapsone monotherapy within 12 months of the availability of multidrug therapy in the concerned project districts (para. 2.07);

(c) ensure that the Project States would carry out the delivery of services in tribal areas in accordance with the plan agreed with IDA, which inter alia provides for the participation of tribal populations in planning and designing project activities in their communities (para. 2.09);

(d) discuss with IDA by December 31, 1997, options for the future utilization of the staff assigned to the NLEP, duly taking into account the findings of the mid-term review (para. 3.06);

(e) obtain or ensure that Project States would obtain, from each District Leprosy Society which carries out the project, an undertaking, with form and content acceptable to IDA, regarding the carrying out of the project by such Society (para. 3.09);

(f) review, and ensure that Project States would review with IDA by December 31 each year, the progress of project implementation over the preceding twelve months and an annual work plan for the next twelve months (para. 3.19); and

(g) carry out, and ensure that Project States would carry out with IDA, a mid-term review of project implementation, prior to July 31, 1997, and would take into account the comments and suggestions made by IDA at such review and during project implementation thereafter (para. 3.20).

5.02 A condition of disbursement for expenditures incurred by 13 States, in which major project components would be implemented, would be that such States would furnish a Letter of Undertaking, with form and content acceptable to IDA, and would outline how each State would carry its part of the project in accordance with the guidelines and policies of the National Leprosy Eradication Program (para. 3.09).

5.03 Subject to the above conditions, the proposed project constitutes a suitable basis for a credit of SDR 60.0 million (US$85.0 million equivalent) to India at standard IDA terms with 35 year maturity.

ANNEX 1
Page 1

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

PREVALENCE RATE OF LEPROSY BY STATE IN DESCENDING ORDER
(per 1,000)

STATE/UNION TERRITORY	1987	1991
Bihar	6.2	5.4
Orissa	7.9	5.1
Lakshadweep	10.1	3.9
A & N Islands	4.9	3.6
Andhra Pradesh	8.6	3.2
Daman & Diu	-	3.0
Uttar Pradesh	4.3	2.6
Pondicherry	11.7	2.5
Madhya Pradesh	3.9	2.4
Kerala	3.0	2.2
D & N Haveli	1.1	2.2
Tamil Nadu	7.6	2.1
Maharashtra	5.5	2.1
West Bengal	5.2	1.7
Nagaland	2.3	1.6
Arunachal Pradesh	2.3	1.5
Chandigarh	1.3	1.4
Tripura	2.7	1.1
Karnataka	3.9	0.9
Goa	1.9	0.9
Assam	0.9	0.8
Himachal Pradesh	1.1	0.8
Jammu & Kashmir	1.2	0.8
Gujarat	1.0	0.6
Meghalaya	1.2	0.6
Manipur	3.8	0.6
Sikkim	1.1	0.6
Delhi	1.6	0.4
Rajasthan	0.5	0.3
Mizoram	1.3	0.3
Punjab	0.2	0.2
Haryana	0.1	0.1
Weighted National Average	4.9	2.4

Source: CSSRL Vol. II, No. 2, July 1992.

COMMUNITY HEALTH CELL
LIBRARY AND INFORMATION CENTRE

REGISTERED LEPROSY CASES

STATE/UNION TERRITORY	CASES ON RECORD - 1991
Bihar	462,710
Orissa	157,621
Lakshadweep	159
A & N Islands	1,347
Andhra Pradesh	214,235
Daman & Diu	192
Uttar Pradesh	361,568
Pondicherry	1,963
Madhya Pradesh	159,850
Kerala	65,817
D & N Haveli	383
Tamil Nadu	118,197
Maharashtra	166,619
West Bengal	114,349
Nagaland	2,030
Arunachal Pradesh	1,301
Chandigarh	936
Tripura	2,706
Karnataka	39,470
Goa	1,245
Assam	18,766
Himachal Pradesh	3,957
Jammu & Kashmir	6,356
Gujarat	24,901
Meghalaya	1,394
Manipur	1,365
Sikkim	225
Delhi	4,232
Rajasthan	15,549
Mizoram	201
Punjab	3,291
Haryana	1,282
TOTAL	1,954,217

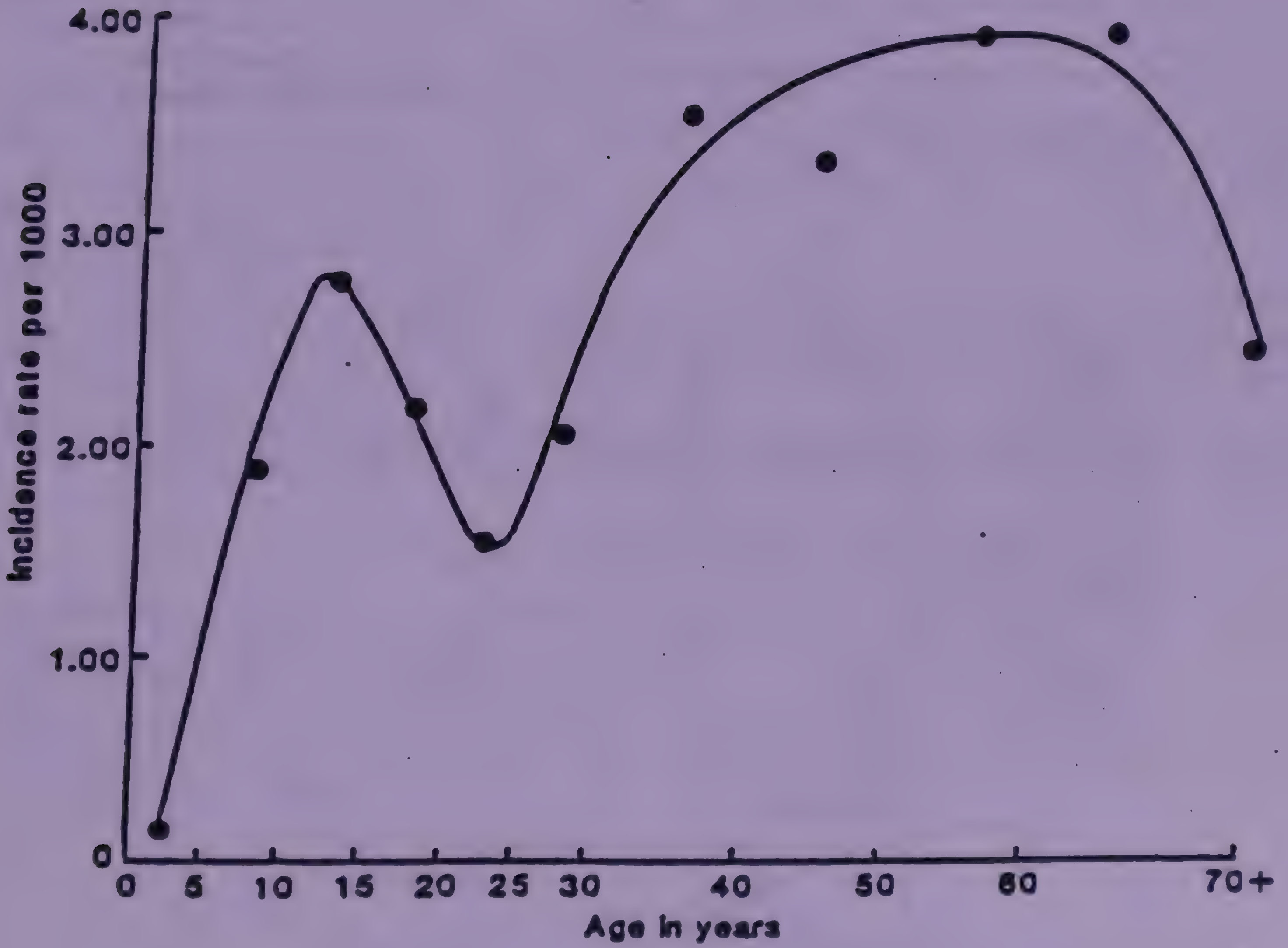
Source: CSSRL Vol. II, No. 2, July 1992.

ANNEX 2

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

AGE SPECIFIC INCIDENCE RATES OF LEPROSY IN HIGHLY ENDEMIC REGION IN INDIA (From Nordeen 1985)

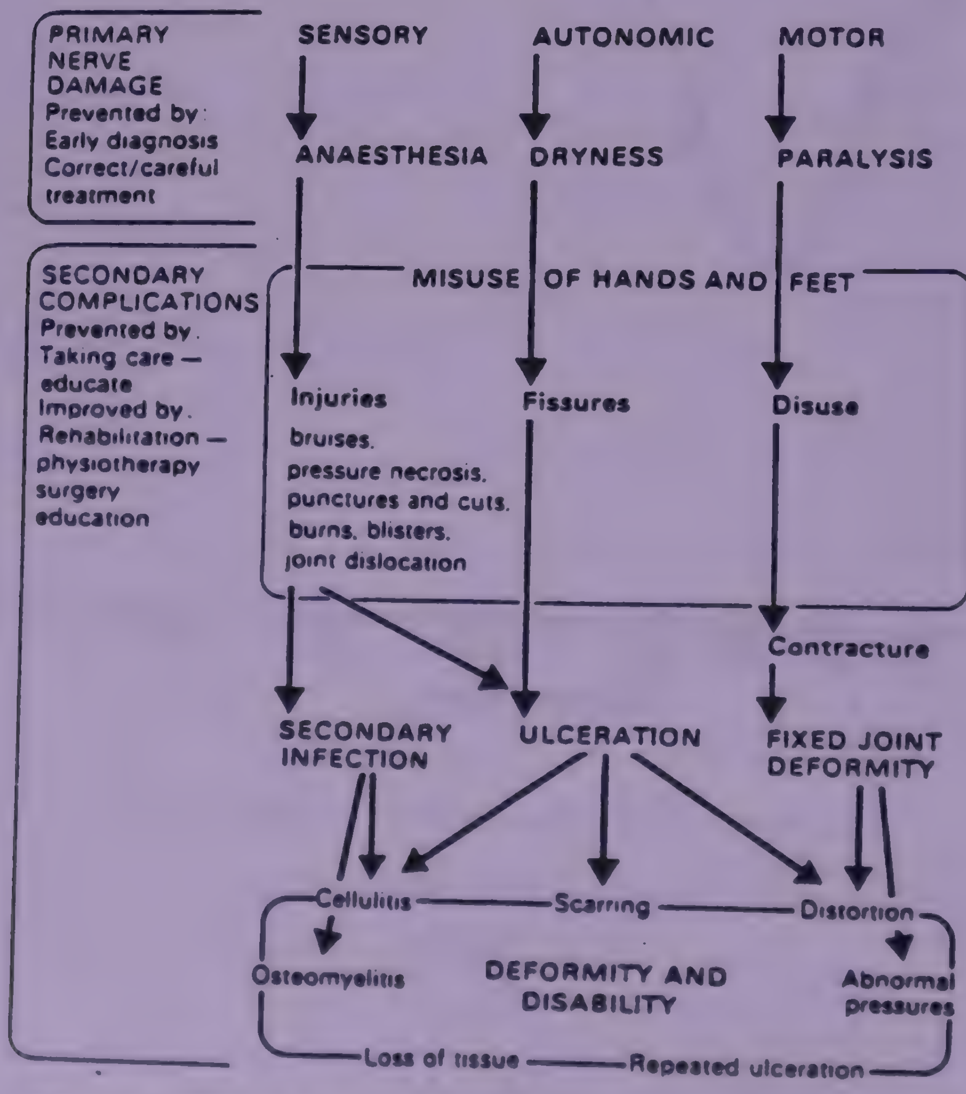


INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

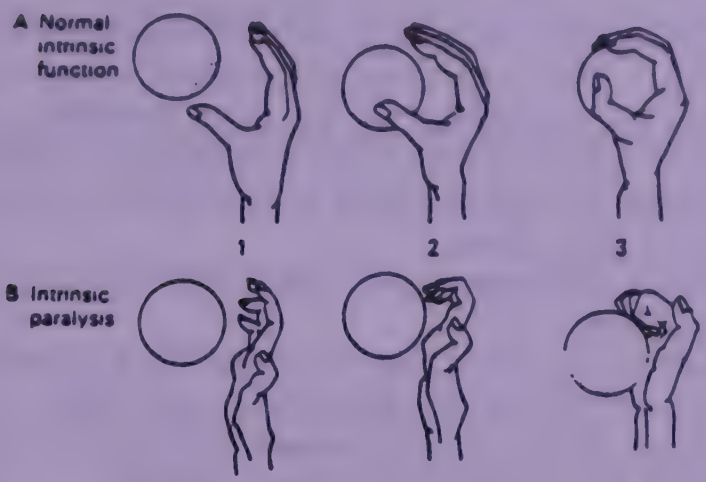
NERVE DAMAGE AND MECHANISMS CAUSING DISABILITY

Damage to the three physiological components of nerves is followed by anaesthesia, dryness of the skin, and muscular paralysis. These three primary factors underlie deformity and disability of the hands and feet in patients with leprosy because they predispose the affected limbs to misuse. Ulceration, scar formation and secondary infection ensue, and create a vicious cycle of events which causes loss of deep tissue and results in disability. A further cause of nerve damage in lepromatous patients is due directly to invasion of tissues by M. leprae. The interaction of these eight causes of disability is summarized below:



The pathogenesis of disability following nerve damage in leprosy.

COMPLICATIONS DUE TO NERVE DAMAGE



Stages of grasp in normal and claw hands.

A1. A normal hand opens with extension of all finger joints.

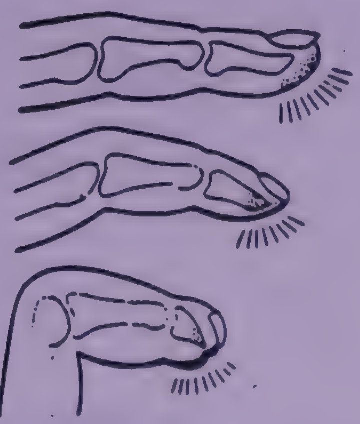
A2. Closure is begun by pure intrinsic muscle action with flexion of metacarpophalangeal joints; interphalangeal joints remain extended.

A3. Grasping the object is completed by long flexor action at the interphalangeal joints.

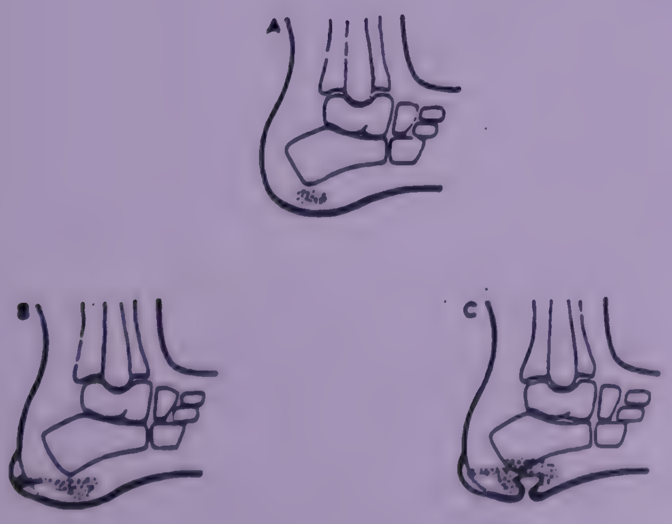
B1. With intrinsic muscle paralysis, hyperextension of metacarpophalangeal joints may partially compensate for flexion of interphalangeal joints.

B2. Closure is begun and completed by the long flexors which roll the fingers shut from their tips.

B3. A large object cannot be grasped. A small object is grasped between the finger tips and the metacarpal heads.



Mechanism of damage in anaesthetic paralysed finger. Repetitive trauma to a clawed and anaesthetic finger tip causes callus and subcuticular destruction of pulp and of the tip of the distal phalanx.

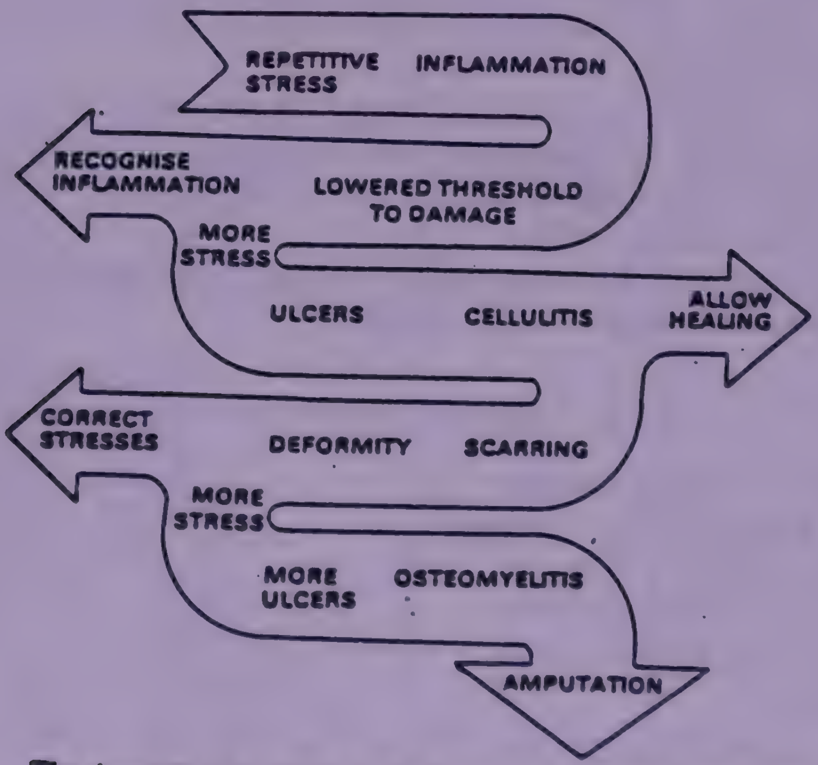


Stages in the development of plantar ulceration in an anaesthetic foot. (A) Repetitive stress bruises sub-cutaneous tissues. (B) If it is not allowed to heal, bruising leads to necrosis. The liquified debris tracks to the surface as a necrosis blister, either directly under the bruise or sideways to the softer glabrous skin at the edge of the sole, as shown here. The blister remains sterile so long as the skin is not broken. (C) The skin breaks down, producing an ulcer which may be at the site of the blister or directly overlaying the bony prominence, as shown here. Sometimes the ulcer extends to include both sites.

DISABILITY PREVENTION & REHABILITATION

PREVENTION OF DISABILITY. The sequence of events which leads from nerve damage to disability can be interrupted at four points:

1. Prevention of misuse by protecting anaesthetic limbs and by teaching the patient how to care for them.
2. Early recognition of inflammation, so that the part may be rested before ulceration takes place.
3. Permitting ulceration to heal as soon as it is detected, so that there is a minimum of residual scarring and distortion.
4. Providing protection for damaged hands and feet, in order to distribute pressure evenly and to prevent further injury.



The downhill path which leads from nerve damage to deformity and amputation. The path may be avoided by preventing misuse, and may be left at three places (adapted from the original by Dr Paul Brand).

Source: Leprosy (Third Edition); Anthony Bryceson and Roy E. Pfaltzgraff; Churchill Livingstone, New York, 1990.

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

EXISTING INFRASTRUCTURE UNDER THE NLEP 1991

Facilities	Number
Leprosy Control Units	758
Urban Leprosy Centers	902
Survey, Education & Treatment Centers	6,099
Temporary Hospitalization Wards	291
District Leprosy Units	277
Leprosy Training Centers	49
Sample Survey cum Assessment Units	41

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

STAFF DUTIES

A. THE CHIEF DISTRICT MEDICAL OFFICER OF HEALTH

B. THE MEDICAL OFFICER OF THE PRIMARY HEALTH CENTER

C. THE LEPROSY CONTROL UNIT MEDICAL OFFICERS

D. THE NON-MEDICAL SUPERVISOR

E. THE PARA-MEDICAL WORKER

F. THE HEALTH ASSISTANT (FEMALE M.P.S.)

G. THE MULTIPURPOSE WORKER (MALE)

H. THE HEALTH WORKER (FEMALE)

I. THE VILLAGE HEALTH GUIDE

J. THE STATE HEALTH EDUCATION OFFICER

K. THE HEALTH EDUCATOR AT THE DISTRICT LEVEL

L. THE HEALTH ASSISTANT SUPERVISOR (MULTI-PURPOSE)

M. THE PHYSIOTHERAPIST AT THE DISTRICT LEVEL

N. THE COMMUNICATION OFFICER

O. THE STAFF OFFICER

P. THE BUDGET AND FINANCE OFFICER

Q. THE SYSTEM ANALYST AND PROGRAMMER

R. DISTRICT CONSULTANTS

S. MEDICAL OFFICER OF THE CENTRAL COORDINATION CELL

A. DUTIES OF THE CHIEF DISTRICT MEDICAL OFFICER OF HEALTH

1. Responsible for administration of implementation of leprosy eradication activities through the Primary Health Care System.

2. Function as the Vice-Chairman/Member Secretary of the District leprosy Society.

3. Supervise and monitor the Leprosy program activities of the Medical Officers during the monthly meeting of MOs of health centers or at a specially convened meeting and take suitable administrative and operational actions as needed.

4. Coordinate the Leprosy Program activities with all disciplines in the health sector as well as non-governmental organizations working for leprosy through periodic meetings. The services of members of the District Leprosy Society would be exploited to this end.

5. Complete any other duties by Central/State authorities.

CHECK LISTS:

Number of new cases when diagnosis has been confirmed.
Number of RFT cases checked before release.
Number of Surveillance cases checked.
MDT patients attendance verified at the Health Centers.
Review the reports and records at PHC/SC.
Provide supportive clinical and technical guidance.

B. DUTIES OF THE MEDICAL OFFICER OF PRIMARY HEALTH CENTER

1. Responsible for leprosy eradication activities in the Health Centre with the help of Primary Health Centre staff and PMWs.

2. Supervise and guide the staff for effective involvement in leprosy program activities.

3. Make final diagnosis and classification of suspected leprosy cases referred by health workers, self-reporting patients and out-patients by clinical diagnosis and skin smear examinations when necessary.

4. Ensure monthly supervised MDT to confirmed leprosy cases at PHC and sub-centre headquarters on fixed day of month and motivate patients for regular visits.

5. Release MB and PB cases on completion of treatment. Clinically assess both MB and PB cases on completion of 24 pulses and 6 pulses treatment respectively, particularly in doubtful cases.

6. Conduct annual clinical surveillance of cured cases. Bacteriological surveillance for MB cases after 2 years and 5 years if possible.

7. Refer problem cases for expert opinion of visiting DLO/Consultant for guidance.

8. Ensure appropriate stock of anti-leprosy drugs and other supplies.

9. Impart task oriented training of new untrained health workers and health assistants with the help of district leprosy staff.

10. Maintain records and submit periodic reports to higher echelons and review program activities with the staff at monthly meetings.

11. Responsible for receiving and arranging disbursement of MDT funds received from DLO.

12. Disburse and account for MDT expenditure.

13. Any other duty assigned.

C. DUTIES OF THE LEPROSY CONTROL UNIT MEDICAL OFFICERS

ADMINISTRATIVE AND MANAGERIAL

1. Operational Planning - to determine and organize sub-centers, treatment circuits for the Leprosy Control Unit in consultation with the District Leprosy Officer.

2. Organize smooth functioning of the unit (rosters, work schedules, deployment of vehicles, drugs etc.)

3. Responsible for timely requisition, delivery and accounting of drugs, chemicals, equipment and health educational materials.

4. Assure timely availability of the above, staff and vehicles.

5. Ensure maintenance of vehicles and equipment by repairs and servicing and avoid misuse.

6. Prepare monthly, quarterly and annual reports.

7. Advise District Leprosy Officers on leave rosters of Leprosy Control Unit Staff.

SUPERVISORY

1. Allocate authority and monitor work of staff such as NMSS, Health Educators, PMWs etc.

2. Identify problems and difficulties of HEs, NMSs and PMWs.

3. Supervise registration of patients and related activities.

4. Verify validity of information and records.

5. Supervise laboratory staff and ensure smooth functioning.

6. Supervise health education.

MEDICAL

1. Make final diagnosis and classification of all leprosy cases. Prepare standard case cards and ensure their use by all units in the district.

2. Decide type of treatment and supervise treatment.

3. Make six monthly clinical examinations of all leprosy cases.

4. Arrange for periodic random smear checking.

5. Diagnose drug reactions and lepra reactions type I and II.

6. Define and classify disabilities.

7. Decide when disease inactivity has occurred.

8. Decide when patient can be released from treatment and declared cured.

9. Decide the period of surveillance after a case is declared cured.

10. Determine the type of preventive measures and rehabilitation required by individual patients and ensure that they receive this care.

COMMUNICATION, HEALTH EDUCATION AND TRAINING

With patients:

1. Educate patients about disease and expected outcome of treatment.

2. Build up confidence in treatment.

3. Motivate for regular treatment.

4. Provide family counseling.

With staff:

5. Encourage and motivate the staff at all levels.

6. Improve their technical skills and knowledge.

7. Support and counsel staff members.

MONITORING AND EVALUATION

1. Staff performance.

2. Operational aspects: identify trouble spots and bottlenecks and suggest solutions to DLO.

3. Case findings, drug delivery, compliance, drug side effects, health education, preventive and vocational rehabilitation components.

4. Recording, reporting and analysis of the data.

5. Giving regular feedback to all the units after checking and analyzing their reports.

D. DUTIES OF THE NON-MEDICAL SUPERVISOR

PLANNING AND SUPERVISION

1. Plan the work of Para-medical Workers in case detection, mobilization of cases for treatment and follow up and co-ordinate Health Educators.

2. Plan and supervise the work performance of Para-Medical Workers including pre-clinic drives, mobilization and response of patients at treatment points, absenteeism, screening of contacts, population and school surveys.

3. Verify the records, reports and drug sheets of para-medical workers.

4. Plan and help PMWs in organization and conducting surveys.

MEDICAL

1. Diagnose leprosy in all suspected cases.

2. Make provisional classification of patients.

3. Recognize and refer patients with complications.

4. Recognize and refer cases with treatment side-effects and lepra reaction.

5. Treat minor ailments in leprosy patients.

EDUCATION

1. Promote knowledge of leprosy and its treatment through contacts with patients and families of school children and the general public while conducting surveys during Health Education Camps.

E. DUTIES OF THE PARA-MEDICAL WORKER

1. Plan daily activities in advance to optimize time use and patient coverage in conformity with performance of treatment circuits and health education activities.

2. Detect and keep track of people with suspicious signs of leprosy and make provisional diagnosis to be confirmed by Non-Medical Supervisor/Medical Officer.

3. Make tentative classification according to field classification criteria.

4. Make lists of cases according to treatment delivery points in consultation with Non-Medical Supervisor/Medical Officers.

5. Take skin smears and send them to laboratory .

6. Suspect and report possible complications and refer them to the non-medical officer.

7. Suspect drug side effects and lepra reactions and refer them to Non-Medical Supervisor/Medical Officer.

8. Motivate patients for regular attendance to clinics.

9. Trace and motivate absentees.

10. Examine healthy family contacts.

11. Organize and execute general population surveys.

12. Organize and execute school surveys.

13. Keep up-to-date and accurate records of all patients.

14. Write correct reports.

15. Treat minor common ailments and refer to PHC when necessary.

16. Recognize and exploit all opportunities for expanding health education and communication skills.

17. Have liaison with other health workers of the particular villages such as the multi-purpose worker-male and female, Anganwadi workers, village health guides and trained Dais.

18. Contact patients in his area at regular intervals to educate them about treatment regularity etc.

F. DUTIES OF THE HEALTH ASSISTANT (FEMALE M.P.S.)

1. Supervise field work of health workers (female) regarding detection and referral of suspected leprosy cases for confirmation, health education of community and motivation of assigned treatment/follow-up defaulters to visit the health center.

2. Detect suspected leprosy cases and report to health center for confirmation.

3. Identify defaulters and motivate for continuation of treatment.

4. Make tablet count of anti-leprosy drugs with the patients at their homes during visits to villages.

5. Refer leprosy patients under treatment/cases with suspected rations/complications/drug side effects to health center.

6. Guide MPW (Female) for regular transmission of prescribed reports on leprosy activities to the male counterpart (Health Worker - Male).

7. Any additional activity assigned by MO, PHC.

G. DUTIES OF THE MULTIPURPOSE WORKER (MALE)

1. Detection of suspected leprosy cases in the assigned community with special reference to annual examination of family contacts of old and current leprosy cases during treatment, follow up and referral to the health center for confirmation.

2. Motivate and refer all suspected cases to PHC/SHC for confirmation of diagnosis.

3. Refer/remind cured leprosy patients in his care to visit Primary Health Center for annual follow up for two years in PB cases and five years in MB cases.

4. Health education of community during field visits on suspected leprosy signs/symptoms and curability to promote voluntary reporting of suspected cases and reduce the traditional stigma associated with leprosy.

5. Motivate through personal contact to promote treatment compliance and follow up of patients under MDT and those cured respectively.

6. Maintain appropriate records of suspected leprosy cases referred, outcome of referrals, updated line listings of leprosy patients under MDT and under follow up, and dates/months of expected visits to health center.

7. Make tablet count of anti-leprosy drugs at the home of leprosy patients under MDT to promote regular drug intake.

8. Give credit to the contribution of the health worker (female) in her area in the periodic reports of leprosy activities especially detection of suspected leprosy cases.

9. Promote health guides in his area to educate the community on leprosy for improved voluntary reporting and reduced stigma.

10. Treat minor ailments of leprosy patients and refer them to health center when necessary.

11. Complete any other duties assigned by MO, PHC.

H. DUTIES OF THE HEALTH WORKER (FEMALE)

1. Detect suspected leprosy cases especially in the female population in her area and refer them to primary health center for confirmation.

2. Remind leprosy patients on MDT in her headquarters village to receive supervised MDT on due date at fixed time.

3. Motivate treatment defaulter in her headquarters village to continue and complete the full course until cure.

4. Motivate annual follow-up defaulter in her headquarters village to visit the health center.

5. Health education of community to promote voluntary reporting and reduce stigma.

6. Make tablet count of anti-leprosy drugs at the homes of selected leprosy patients under MDT in her headquarters village to promote drug intake.

7. Convey monthly activities under leprosy program to MPW (male) for incorporation in the periodic report.

8. Any other tasks assigned by MO, PHC.

I. DUTIES OF THE VILLAGE HEALTH GUIDE

1. Carry out health education activities in the community to detect suspected cases of leprosy.

2. Help MPW (Male Female) in promoting confirmed cases for treatment at the subcenter headquarters on fixed date by the multipurpose supervisor (Male).

3. Help Multipurpose worker (Male & Female) in locating treatment defaulters and assist in their retrieval.

4. Any other tasks assigned by MO, PHC.

J. DUTIES OF THE STATE HEALTH EDUCATION OFFICER

1. Work under direct supervision of State Leprosy Officer.

2. Work in close collaboration with NLEP Consultant GOI/WHO.

3. Coordination with the Communication Officer on central coordination cell.

4. Provide all necessary guidance to the health educators in the District Leprosy offices.

5. Ensure that the health education action plans are prepared and followed.

6. Obtain the requisite education material from the Communication Officer and arrange prompt distribution to the District Leprosy Officers.

7. Arrange preparation in local languages of materials supplied in English/Hindi.

8. Obtain necessary funds from DGHS Leprosy and Communication Officer and ensure proper utilization.

9. Provide necessary guidance to the Health Educators at the district level in implementing 3 main components: mass media, Leprosy extension education by field staff and orientation of identified categories.

10. Collaborate with media people at state level including TV, AIR, Information & publicity dept., family welfare and others.

11. Arrange periodic inter-media publicity coordination committee meetings.

12. Take all necessary steps to ensure adequate publicity and proper education to the community and patients so that MDT is a success and Leprosy becomes a problem of the past.

K. DUTIES OF THE HEALTH EDUCATOR AT THE DISTRICT LEVEL

1. Work under direct control of district leprosy officer.

2. Carry out the various technical guidelines issued by the senior health education officer at the state level.

3. Prepare a health education action plan for discussion in meetings of medical officers at the district level. Obtain approval for this plan from the district leprosy officer and ensure its implementation.

4. Obtain requisite education material from the state health education officer including leprosy education kits, story books, flip charts etc. and ensure their utilization.

5. Use adequate publicity through mass media to dispel traditional myths about leprosy and enhance community awareness.

6. Through the use of education kits and other aids, ensure acceptance of program activities including regular treatment, contract survey and reporting of reactions.

7. Help in organization of orientation camps to identified groups according to health education action plan.

8. Maintain close collaboration with health education wings of general health services and family welfare.

L. DUTIES OF THE HEALTH ASSISTANT SUPERVISOR (MULTI-PURPOSE)

1. Supervise health workers (MPWs) in the field regarding direction and referral of suspected leprosy cases, health education of community, notification of treatment defaulters and their follow-up.

2. Detect suspected leprosy cases and refer them to health center.

3. Identify and motivate defaulters to visit the sub-centers.

4. Make tablet count of daily self administered anti-leprosy drugs with the patient during visit to their homes to assess and improve drug intake.

5. Refer patients with suspected reactions/complications/drug side effects to health center.

6. Guide MPW (Male) in preparation of prescribed report on leprosy activities in the area.

7. Be present at the sub-center for administration of monthly pulse treatment.

8. Disburse compensation of Rs. 10/- for supervisory pulses to patients and render account to MO, PHC. Compensation shall be limited to 6 pulses in PB cases and 24 pulses in MB cases.

9. Disburse incentive in case or kind decided by the Society to every patient taking complete course of treatment in prescribed time.

10. Perform additional assignments from the Medical Officer.

M. DUTIES OF THE PHYSIOTHERAPIST AT THE DISTRICT LEVEL

1. Work under direct control of district leprosy officer and function as a part of district leprosy organization.

2. Ensure procurement of requisite material to carry on disability and ulcer care services.

3. Arrange for orientation of the non-medical supervisors to carry out disability and ulcer care program.

4. Ensure conduct of disability survey and maintenance of individual case cards.

5. Organize detection of early deformity and help the staff in advising suitable physiotherapy exercises.

6. When necessary supply/apply simple aids including refabricated splints for instance, gutter splints, adduction bands, wrist band loops, modular grips, aids and POP castings.

7. Appraise the field staff to select the appropriate time to refer cases for reconstructive surgery.

8. Appraise the units/PHCs staff in detecting all cases of plantar anaesthesia and help the staff in preventing foot ulcer/trophic ulcers.

N. DUTIES OF THE COMMUNICATION OFFICER

1. Work under the direct control of the Project Director.

2. Tour for 10 days a month.

3. Responsible for all health Education activities in the Project areas supported by the World Bank. Ensure preparation of health education action plans for each district by organizing workshops at District, State and National levels and monitoring the implementation of the action plan.

4. Review activities under IEC to keep the Project Director informed of the progress and suggest necessary corrective action.

5. Arrange for proper feedback to the District and State Authorities indicating steps to be taken.

6. Plan various communication activities based on field needs and arrange for their implementation.

7. Arrange for proper longitudinal KAP studies to assess the impact of IEC activities.

8. Monitor various training activities including the initial orientation of different categories of staff.

9. Arrange for inter-media publicity coordination committee meeting at the National Level and ensure that suitable instructions/guidelines are communicated to the District and State Authorities by various media agencies.

10. Ensure that similar meetings are arranged at District and State levels so the best use is made of various media to promote anti-leprosy activities.

11. Arrange for preparation of requisite health education material and ensure their timely supply.

12. Take all necessary steps to carry on intensive education activities to remove the unfair stigma associated with leprosy, encourage voluntary reporting and to accept complete treatment.

O. DUTIES OF THE STAFF OFFICER

1. Responsible for administrative work connected to the World Bank supported projects under the direct supervision of the Project Director.

2. Ensure that various staff sanctioned for the Central Coordination Cell and the District Consultants are positioned.

3. Ensure that expeditious action is taken with regards to the service agreements and approval of programs.

4. Ensure timely completion of reports due to the World Bank, Government of India (GOI) and the World Health Organization (WHO).

5. Take all necessary action for conduct of various workshops and review meetings in connection with the implementation of these projects.

6. Attend to any other work that may be assigned by the Project Director.

P. DUTIES OF THE BUDGET AND FINANCE OFFICER

1. Work under the direct control and supervision of the Project Director to take care of all matters connected to budget and finance.

2. Evolve and communicate suitable financial guidelines to all the District Leprosy Societies and District Consultants.

3. Ensure timely payment of fees and travel costs.

4. Ensure that adequate funds are released to the District Leprosy Societies.

5. Watch for the receipt of prescribed expenditure reports from the Districts and arrange suitable feedback in regard to following the financial guidelines.

6. Ensure that prescribed financial statements are furnished to the World Bank, WHO and the DDGHS (Lep.).

Q. DUTIES OF THE SYSTEM ANALYST AND PROGRAMMER

1. Work under the direct supervision of the Project Director and carry out assigned duties.

2. Attend to the development of requisites for hardware and software to support relevant programs in connection with the projects supported by the World Bank.

3. Compile and analyze the data received from 143 districts through the technical reports and arrange for interpretation and investigation where necessary.

4. Arrange for suitable feedback to the District Consultants and the District Program Officers for NLEP with suitable guidelines for rectification of defects.

5. Keep the Project Director informed of the results of analysis and indicate the corrective action to be taken.

6. Make the necessary field visits with the approval of the Project Director.

7. Function as the eyes and ears of the Project Director and ensure timely corrective action keeping overall objectives of the project in mind.

R. DUTIES OF THE DISTRICT CONSULTANTS

1. Appraise the epidemiological situation of leprosy in the District.

2. Know the various units and staff as well as vacant staff positions.

3. Ascertain training status of different categories of staff and arrange for necessary training.

4. Acquaint themselves with the annual targets under case detection, holding and discharge and ensure their equitable distribution and achievement.

5. Ensure correct, complete and timely submission of reports to the District from the periphery to the State and Central authorities from the District.

6. Ensure uninterrupted supply of drugs and other supplies.

7. Watch receipt and proper utilization of funds.

8. Ensure efficient laboratory services.

9. Ensure continuous health education activities.

10. Keep close contact with the State and District authorities, voluntary organizations and private practitioners.

11. Watch and promote rehabilitation activities.

12. Participate in the District Leprosy Society meetings and provide necessary assistance/guidance.

13. Carry on any other duties assigned by the Project Director/Dy. Director General of Health Services (Lep.)

S. MEDICAL OFFICER OF THE CENTRAL COORDINATION CELL

1. Work under the direct supervision of the Project Director.

2. Assist the Project Director in planning activities and preparing guidelines.

3. Assist the Project Director in monitoring and evaluating on-going project activities to ensure timely feedback.

4. Tour for at least 10 days a month to supervise field activities.

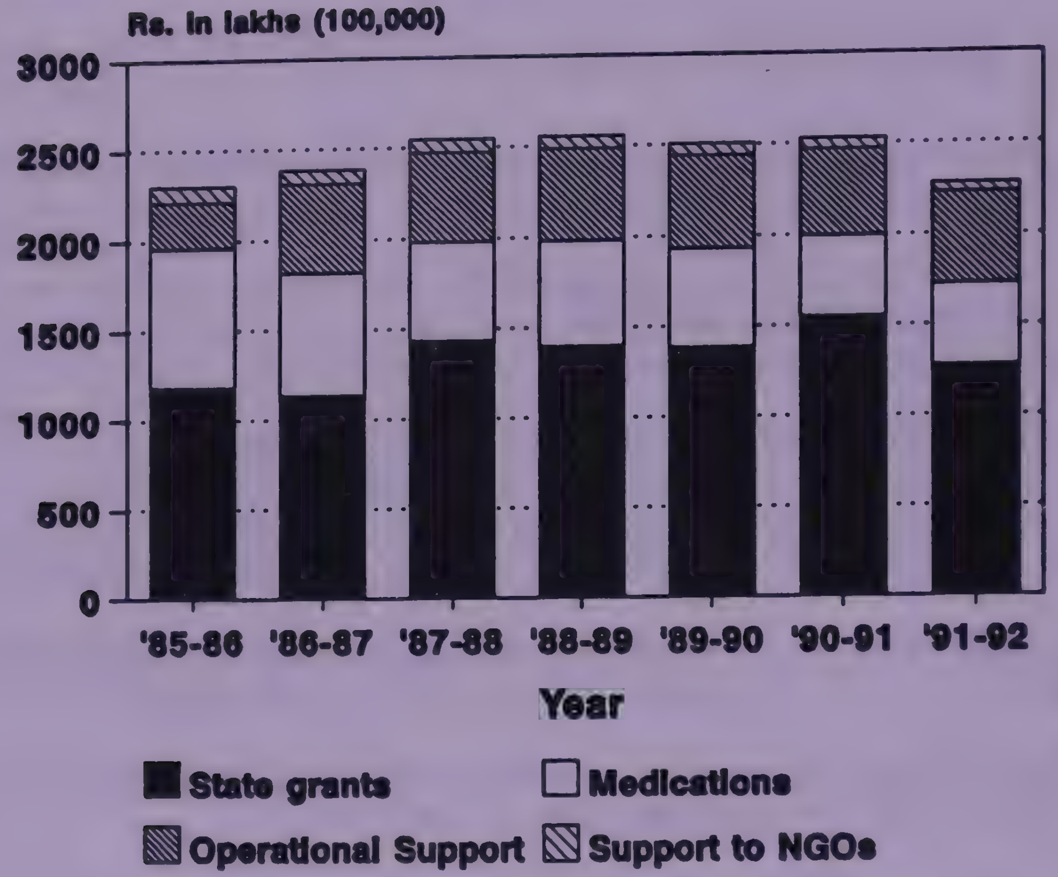
5. During field visits, watch for timely receipt of funds, drugs, and other requirements and ensure their proper utilization.

6. During field visits, observe whether MDT activities are being carried out according to guidelines.

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

PAST BUDGET PROVISIONS FOR NLEP
(Constant 1991/92 Rupees)



Activity	Year 85-86	86-87	87-88	88-89	89-90	90-91	91-92
Cash grant to states	1187.69	1138.91	1441.34	1401.94	1391.93	1553.31	1279.00
Medicines	774.05	680.53	542.13	582.57	540.21	444.71	450.00
MDT operational support to the District Societies	256.60	492.80	491.53	504.54	513.68	474.03	501.00
Support to Voluntary Organizations/NGOs	82.78	78.22	72.28	67.27	62.64	56.81	50.00
TOTAL	2,301.12	2,390.46	2,547.28	2,556.32	2,508.46	2,528.86	2,280.00

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

STANDARD MDT REGIMEN

For multibacillary cases, 24 pulse treatments in 36 months

		ADULT	6-9	10-14
PULSE THERAPY (supervised)	rifampicin clofazimine	600 mg 300 mg	300 mg 100 mg	450 mg 150 mg
DAILY TREATMENT (self administered)	dapsone clofazimine	100 mg 50 mg	25 mg 50 mg 1/	50 mg 50 mg 2/

For paucibacillary cases, 6 pulse treatments in 9 months

		ADULT	6-9	10-14
PULSE THERAPY (supervised)	rifampicin	600 mg	300 mg	450 mg
DAILY TREATMENT (self administered)	dapsone	100 mg	25 mg	50 mg

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1/ Self administered twice weekly.

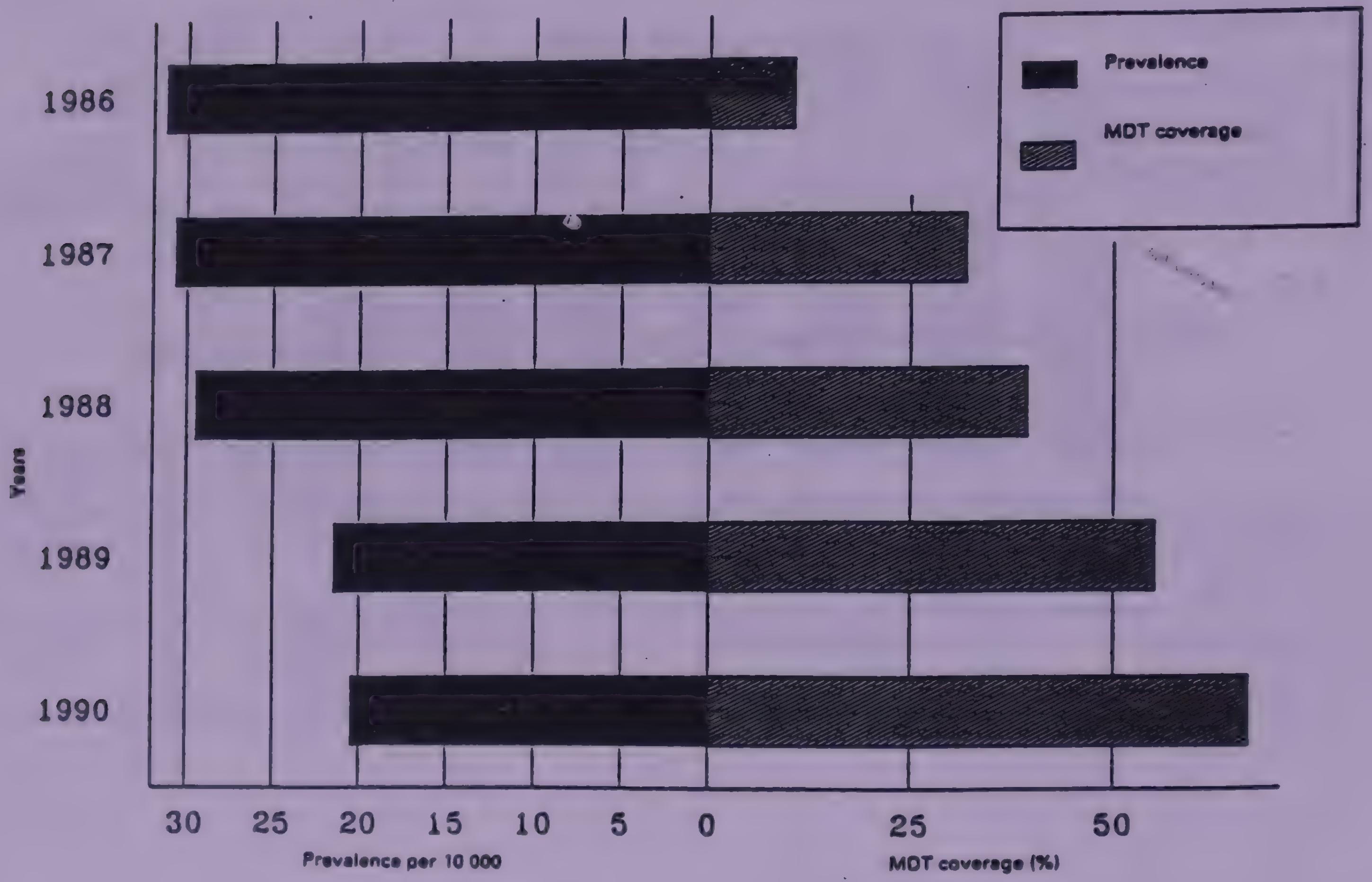
2/ Self administered on alternate days.

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

EFFECTIVENESS OF MULTI-DRUG THERAPY

Leprosy Prevalence and Multidurg Therapy (MDT) Coverage
WHO South-East Asia Region, 1986-1990

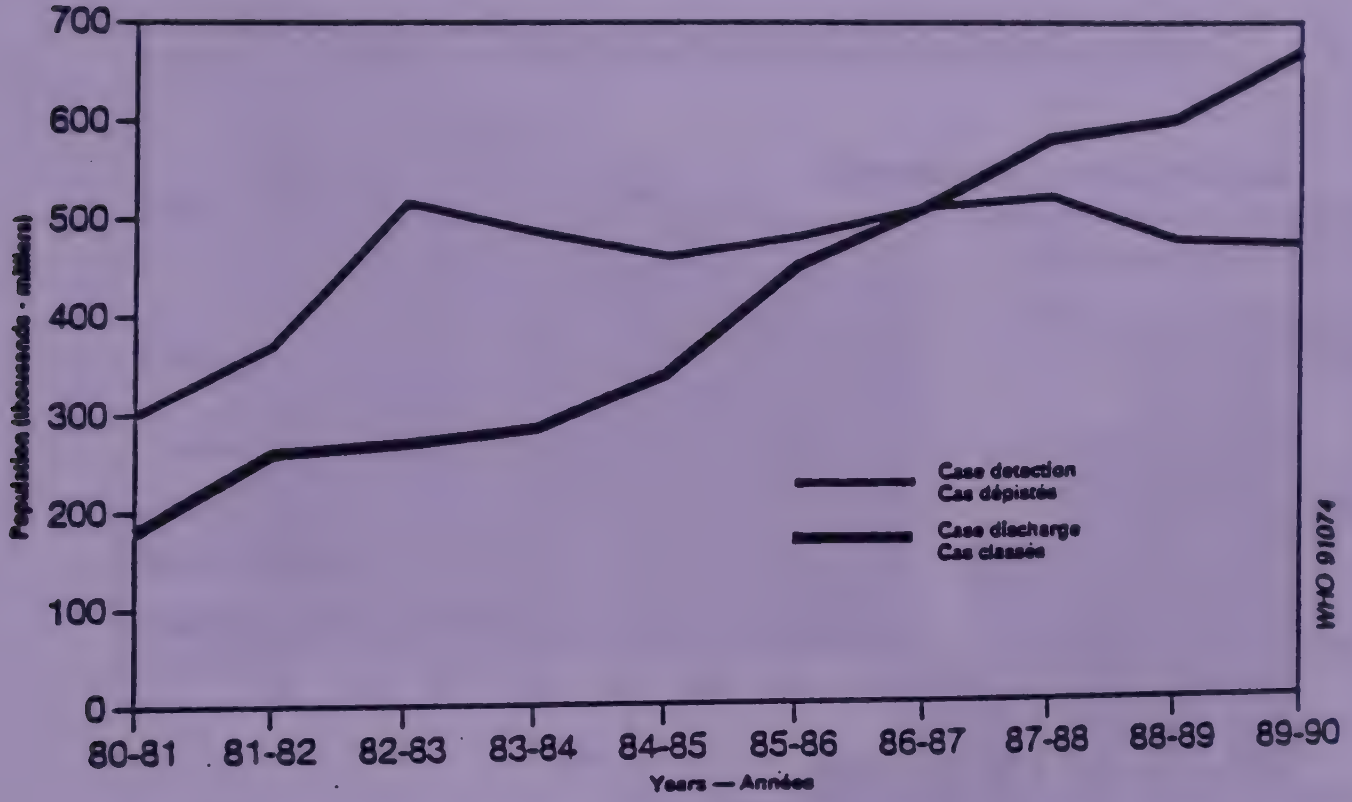


Epidemiological Impact of Multidrug Therapy (MDT)
12 Districts in India

Indicator Indicateur	At commencement of MDT Au départ de la PCT	March 1989 Mars 1989	Reduction Réduction (%)
Prevalence rate per 1000 — Taux de prévalence par 1000	9.8	3.4	65.3
New case-detection rate per 1000 — Taux de dépistage de cas nouveaux par 1000	3.1	1.8	42.0
Multibacillary ratio (%) — Taux de cas multibacillaires (%)	24.7	21.3	13.8
Child rate (%) — Taux de cas infantiles (%)	18.8	16.3	13.3
Deformity rate (%) — Taux de déformations (%)	7.6	2.7	64.5
Number of villages with leprosy patients — Nombre de villages comptant des lépreux	15 487	11 251	27.4

Source: World Health Organization

Annual New Leprosy Case Detection and
Case Discharge Performance, India, 1980-1990

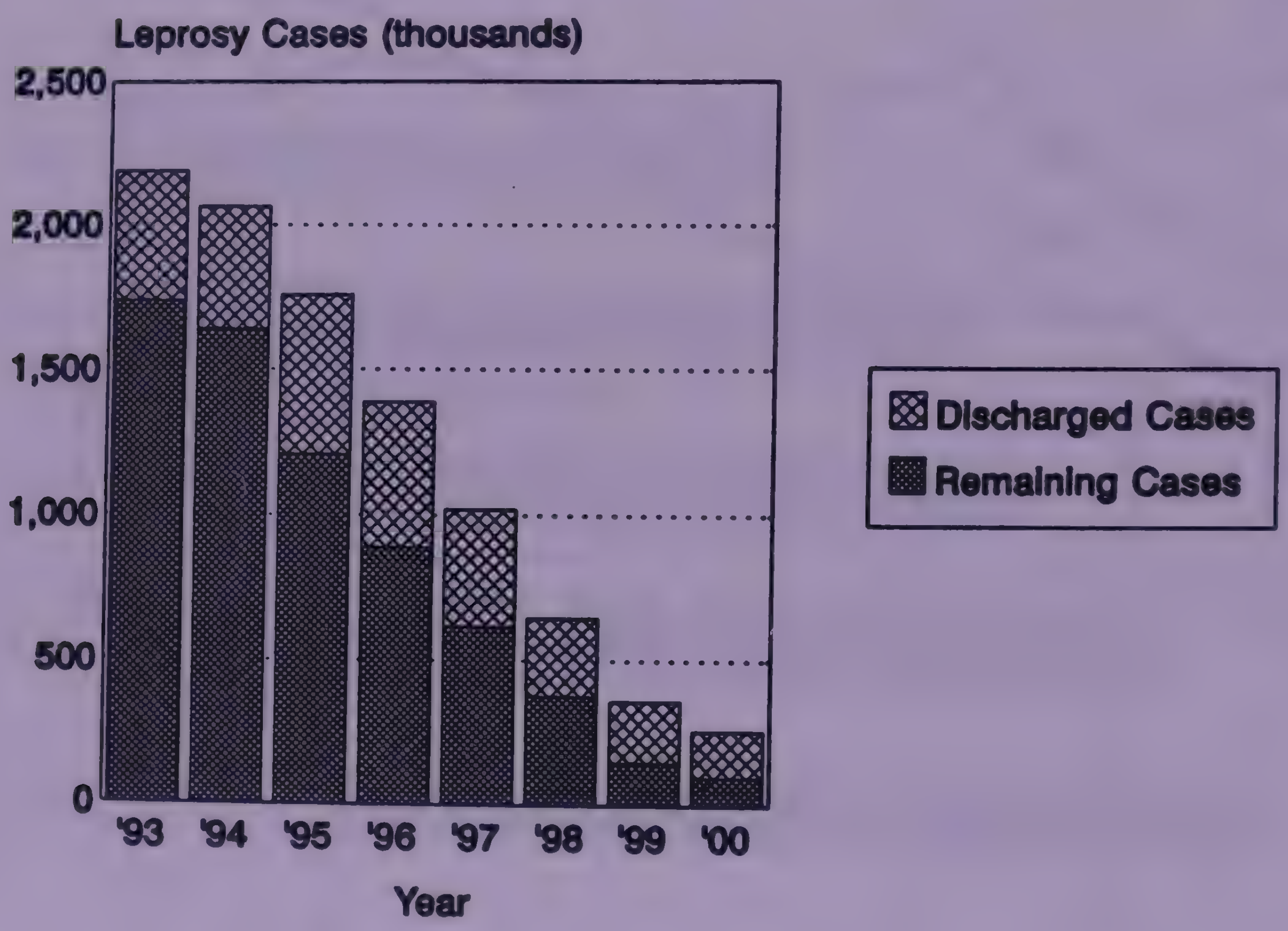


INDIA

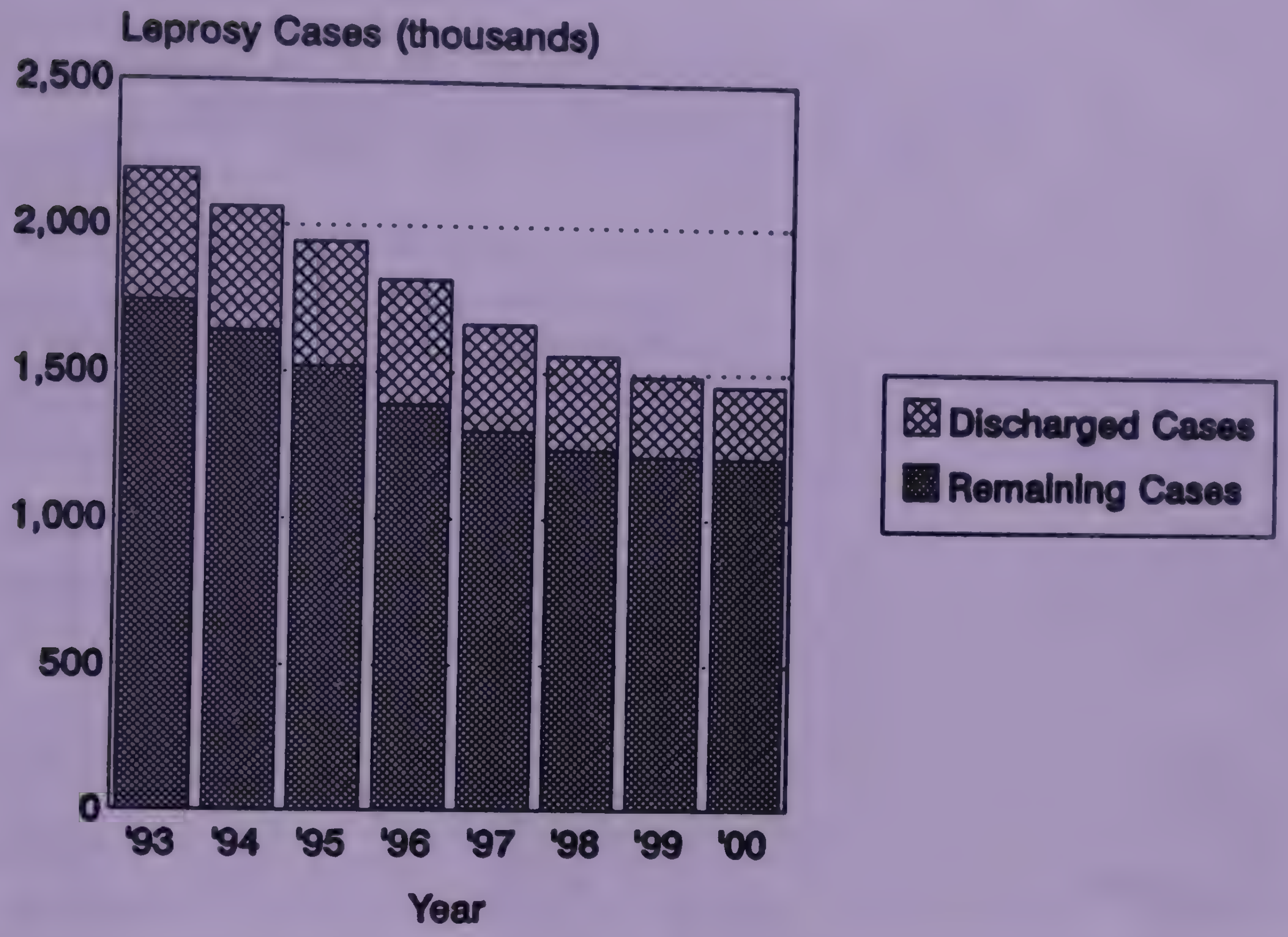
NATIONAL LEPROSY ELIMINATION PROJECT

EPIDEMIOLOGIC SCENARIOS

Leprosy Prevalence With the Enhanced Program



Leprosy Prevalence Without the Enhanced Program



Year	Registered cases at the beginning of the year	Unidentified Cases	New Cases	Discharges: MDT	Discharges: Death, Monotherapy, Other Reasons	Cases remaining at the end of the year
1993	1290	500	+400	-250	-200	1740
1994	1240	450	+375	-225	-200	1640
1995	1190	400	+355	-225	-200	1520
1996	1120	360	+335	-225	-200	1390
1997	1030	320	+315	-190	-175	1300
1998	980	280	+300	-150	-175	1235
1999	955	250	+285	-125	-150	1215
2000	965	225	+270	-100	-150	1210

Cases in thousands.

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

LIST OF 66 HIGH ENDEMICITY DISTRICTS TO BE COVERED THROUGH VERTICAL STRUCTURE BY THE PROJECT
(Prevalence : above 5 per 1,000)

District	Population in Lakhs (100,000)	Estimated Prevalence Rate
ARUNACHAL PRADESH		
1. Tirap	1.28	5.5
2. West Siang	0.74	9.5
3. East Siang	0.71	9.0
4. Towang	0.22	5.0
BIHAR		
5. Dhanbad	21.04	15.9
6. Siwan	17.78	13.3
7. Patna	30.31	19.9
8. Aurangabad	12.36	5.5
9. Nawadah	10.39	8.9
10. Bhojpur	23.90	5.6
11. Purnia	35.93	5.8
12. Katihar	14.27	5.3
13. Muzaffarpur	23.53	5.8
14. Sitamarhi	19.30	7.0
15. Darbhanga	20.04	5.0
16. Western Champaran	16.68	5.7
17. S. Parganas	37.07	5.8
KERALA		
18. Kasargode	8.73	6.2
19. Ernakulam	25.35	5.0
20. Cannannore	19.31	5.0
21. Malappuram	23.03	8.0
22. Kozhikode	22.45	5.0
MADHYA PRADESH		
23. Bhopal	8.40	11.2
24. Indore	14.09	10.8
25. Khandwa	11.54	8.0
26. Satna	11.53	13.1
27. Datia	3.12	7.5
28. Tikamgarh	7.37	5.4
29. Cahatarpur	8.87	6.6
30. Jabalpur	21.99	6.9
31. Balaghat	11.48	5.2
32. Shahdol	13.45	5.6
33. Surguja	16.33	5.3

District	Population in Lakhs (100,000)	Estimated Prevalence Rate
MANIPUR		
34. Tamonglug	0.62	7.0
35. Chandel	0.56	7.2
ORISSA		
36. Phulbani	7.71	8.7
37. Sundergarh	13.38	10.5
38. Kalahandi	13.39	5.0
39. Keonjhar	11.14	8.8
ANDAMAN & NICOBAR ISLANDS		
40. Andaman	1.58	5.6
SIKKIM		
41. East District	1.39	8.6
42. South District	0.76	7.9
UTTAR PRADESH		
43. Gorakhpur	37.96	5.9
44. Lucknow	20.17	5.7
45. Unnao	18.27	6.8
46. Rampur	11.77	5.4
47. Badaun	19.69	5.5
48. Shahjahanpur	16.49	7.9
49. Etawah	17.49	5.7
50. Fatehpur	15.73	9.6
51. Banda	15.36	5.6
52. Hamirour	11.94	7.7
53. Jalaun	9.88	7.1
54. Basti	35.77	6.0
55. Gonda	20.38	5.9
56. Bareilly	22.65	7.2
WEST BENGAL		
57. Cooch Bihar	17.72	5.0
58. Howrah	29.67	5.0
59. Hooghly	35.57	5.0
60. Jalpaiguri	22.15	7.0
61. Malda	20.32	6.0
62. 24 Parganas (S)	43.88	5.0
63. Nadia	29.64	6.0
64. 24 Parganas (N)	55.29	5.0
65. W. Dinajpur	24.05	6.0
66. Murshidabad	36.98	6.0

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NATIONAL LEPROSY ELIMINATION PROJECT

SERVICE DELIVERY CIRCUITS

Service delivery circuits are established in each district in preparation for MDT delivery. Each district is broken into units with a population ranging from 400,000 to 500,000 people. Each unit is divided into circuits comprised of 40,000 to 50,000 people under the jurisdiction of one Medical Officer and two para-medical workers. Within each circuit, 10 to 15 drug delivery points (DDP) are identified with the participation of the beneficiary population representatives. A calendar is established so that patients receive MDT on the same day of each month.

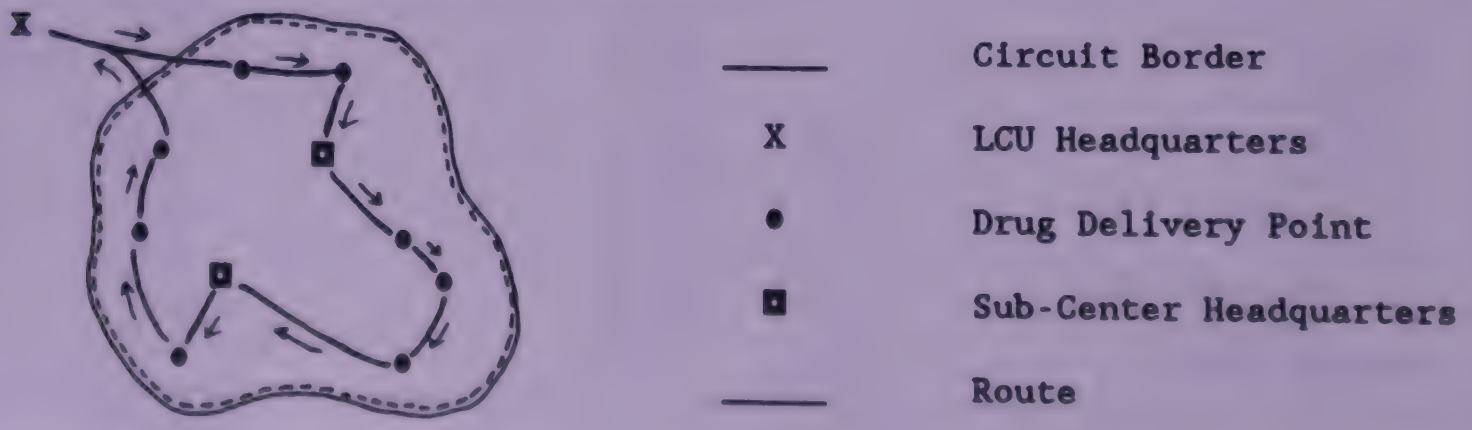
SCHEMATIC MODEL OF MDT PULSE CALENDAR PER UNIT

Circuits

	A	B	C	D	E	F	G	H	I	J
DATES EVERY MONTH	4,5	6,7	9,10	11,12	14,15	16,17	19,20	21,22	24,25	26,27

Drug Delivery Points

	1	2	3	4	5	6	7	8	9	10
PMW	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10
TIME OF ARRIVAL	6-30	7-15	8-00	8-45	9-15	10-00	11-00	12-00	12-45	14-00
TIME OF DEPARTURE	7-00	7-45	8-30	9-00	9-45	10-15	11-20	12-30	13-40	14-30



INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

LIST OF 77 INTERMEDIATE ENDEMICITY DISTRICTS TO BE COVERED UNDER THE MODIFIED MDT PLAN
(Prevalence : 2-5 per 1,000)

	District	State	Population in Lakhs (100,000)	Estimated Prevalence Rate
1.	Gaya	Bihar	31.38	4.8
2.	Hazari Bagh	Bihar	21.95	4.5
3.	Giridih	Bihar	17.13	4.4
4.	Ranchi	Bihar	30.59	3.1
5.	Monghyr	Bihar	33.14	3.6
6.	Begusarai	Bihar	14.56	4.7
7.	East Champaran	Bihar	24.27	3.1
8.	Madhubani	Bihar	23.24	4.8
9.	Samstipur	Bihar	21.16	4.3
10.	Nalanda	Bihar	16.38	2.9
11.	Palamu	Bihar	19.16	2.6
12.	Saharsa	Bihar	29.52	2.2
13.	Saran	Bihar	20.74	2.3
14.	Gopalganj	Bihar	13.61	2.8
15.	Daman	Daman & Diu	0.48	4.1
16.	Bangalore	Karnataka	34.92	3.1
17.	Kolar	Karnataka	19.05	3.7
18.	Mandya	Karnataka	14.18	3.8
19.	D. Kannada	Karnataka	23.36	2.8
20.	Pathanamthita	Kerala	10.76	3.3
21.	Kottayam	Kerala	16.97	3.3
22.	Idukki	Kerala	9.71	3.1
23.	Wynad	Kerala	0.55	3.0
24.	Hoshangabad	Madhya Pradesh	10.03	3.6
25.	Ratlam	Madhya Pradesh	7.82	4.6
26.	Dhar	Madhya Pradesh	10.57	3.8
27.	Jhabua	Madhya Pradesh	7.95	3.2
28.	Barwani	Madhya Pradesh	16.13	4.0
29.	Guna	Madhya Pradesh	10.01	3.2
30.	Damoh	Madhya Pradesh	7.21	4.3
31.	Chindwara	Madhya Pradesh	12.33	4.3
32.	Mandla	Madhya Pradesh	10.37	3.8
33.	Sidhi	Madhya Pradesh	9.90	4.2
34.	Betul	Madhya Pradesh	9.25	2.7
35.	Rajgarh	Madhya Pradesh	8.01	2.7
36.	Dewas	Madhya Pradesh	7.95	2.3
37.	Shajapur	Madhya Pradesh	8.40	2.3

	District	State	Population in Lakhs (100,000)	Estimated Prevalence Rate
38.	Shivpuri	Madhya Pradesh	8.65	2.7
39.	Morena	Madhya Pradesh	13.03	2.0
40.	Seoni	Madhya Pradesh	8.09	2.1
41.	Panna	Madhya Pradesh	5.39	2.9
42.	Narsingpur	Madhya Pradesh	6.50	2.1
43.	Jalna	Maharashtra	11.85	3.4
44.	Jalgaon	Maharashtra	30.04	4.1
45.	Kolhapur	Maharashtra	28.08	3.4
46.	Sangli	Maharashtra	20.59	4.0
47.	Ratnagiri	Maharashtra	14.54	2.2
48.	Dhule	Maharashtra	23.53	2.6
49.	Ahmad Nagar	Maharashtra	30.51	2.8
50.	Pune	Maharashtra	49.49	2.2
51.	Aurangabad	Maharashtra	18.23	2.8
52.	Farrukhabad	Uttar Pradesh	20.02	3.8
53.	Jhansi	Uttar Pradesh	11.33	3.2
54.	Pratapgarh	Uttar Pradesh	18.07	3.3
55.	Sultanpur	Uttar Pradesh	20.38	3.6
56.	Chamoli	Uttar Pradesh	3.64	3.2
57.	Nanital	Uttar Pradesh	11.23	3.2
58.	Moradabad	Uttar Pradesh	31.51	4.2
59.	Jaunpur	Uttar Pradesh	25.27	4.1
60.	Aligarh	Uttar Pradesh	25.65	2.1
61.	Allahabad	Uttar Pradesh	37.81	2.7
62.	Lalitpur	Uttar Pradesh	5.87	2.6
63.	Tehri Garwal	Uttar Pradesh	4.99	2.9
64.	Pithoragarh	Uttar Pradesh	4.80	2.7
65.	Calcutta	West Bengal	42.56	4.0
66.	Darjeeling	West Bengal	11.49	4.0
67.	Chamba	Himachal Pradesh	3.11	2.7
68.	Shimla	Himachal Pradesh	5.10	2.0
69.	Sirmur	Himachal Pradesh	3.06	2.6
70.	Ajmer	Rajasthan	14.40	2.5
71.	Bharatpur	Rajasthan	12.99	2.6
72.	Ganga Nagar	Rajasthan	20.29	2.5
73.	Jaipur	Rajasthan	34.20	2.0
74.	Jodhpur	Rajasthan	16.67	2.0
75.	S. Madhopur	Rajasthan	15.35	2.7
76.	Sirohi	Rajasthan	5.42	2.2
77.	Udaipur	Rajasthan	3.56	2.4

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NATIONAL LEPROSY ELIMINATION PROJECT

LIST OF INSTITUTIONS PERFORMING RECONSTRUCTIVE SURGERY UNDER THE PROJECT

Institution	Town	Location district	State
Sivananda Rehabilitation Home	Kukkahapalli	Rangareddy	Andhra Pradesh
Philadelphia Hospital	Salur	Vizianagaram	Andhra Pradesh
Leprosy Hospital	Palamaneru	Chittoor	Andhra Pradesh
CLTRI	Tirumani	Chengalput	Tamil Nadu
Schieffelin Leprosy Hospital	Karigiri	North Arcot	Tamil Nadu
Tamil Nadu	Kumbakonam		Tamil Nadu
Gremaltes	Madras	Madras	Tamil Nadu
Leprosy Hospital	Manamadu		Tamil Nadu
Gandhi Medical College	Bhopal	Bhopal	Madhya Pradesh
MGM Medical College (M.J. Hospital)	Indore	Indore	Madhya Pradesh
Pt. J.N.M. Medical College	Raipur	Raipur	Madhya Pradesh
G.R. Medical College	Gwalior	Gwalior	Madhya Pradesh
Medical College	Jabalpur	Jabalpur	Madhya Pradesh
S.S. Medical College	Rewa	Rewa	Madhya Pradesh
National Institute for Orthopedically Handicapped (NIOH)	Calcutta	Calcutta	West Bengal
The Leprosy Mission Hospital	Purulia	Purulia	West Bengal
The Leprosy Mission Hospital, Maniktola	Calcutta	Calcutta	West Bengal
Regional Leprosy Research Referral & Training Center, Gowripur	Bankura	Bankura	West Bengal

Institution	Town	Location district	State
Bharat Sevashram Sangh, Sidgora	Jamshedpur	Jamshedpur	Bihar
Ansuiya Leprosy Hospital	Baroda	Baroda	Gujarat
Narol Leprosy Hospital	Ahmedabad	Ahmedabad	Gujarat
Bhavnagar Leprosy Hospital (to be developed)	Bhavnagar	Bhavnagar	Gujarat
Junagarh Leprosy Hospital (to be developed)	Junagarh	Junagarh	Gujarat
Santhal Pahadia Seva Mandal	Madhupur	Deogarh	Bihar
Government Leprosy Training Center	Brambe	Ranchi	Bihar
Richardson Leprosy Hospital	Miraj	Miraj	Maharashtra
Bandarwala Leprosy Hospital	Pune	Pune	Maharashtra
The Leprosy Mission Hospital	Kothara		Maharashtra
Ackworth Leprosy Hospital	Bombay	Bombay	Maharashtra
CLCP (Dr. Atul Shah)	Bombay	Bombay	Maharashtra
Hubli Hospital for Handicapped	Hubli	Hubli	Karnataka
The Leprosy Mission Hospital	Belgaum	Belgaum	Karnataka
Government Leprosy Hospital	Magdi Rd	Banglore	Karnataka
Government LRPU	Gulbarga	Gulbarga	Karnataka
Father Muller's Hospital	Mangalore	Manglore	Karnataka
Lucknow Medical College	Lucknow	Lucknow	Uttar Pradesh
Agra Medical College	Agra	Agra	Uttar Pradesh
Leprosy Mission Hospital	Barabanki	Barabanki	Uttar Pradesh
Leprosy Mission Hospital	Faizabad	Faizabad	Uttar Pradesh
Leprosy Mission Hospital (to be developed)	Varanasi	Varanasi	Uttar Pradesh
Leprosy Mission Hospital (to be developed)	Kanpur	Kanpur	Uttar Pradesh

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NATIONAL LEPROSY ELIMINATION PROJECT

TRAINING SCHEDULE

Areas	Cadres to be trained	Duration (day)	No. per Dist.	Phasing batches	Trainers	Numbers to be trained in 6 years						
						Total	1	2	3	4	5	6
66 Dists. with high endemicity	NLEP Staff	5	100	2	Mobile Teams - 1 for each 5 Dists.	6,600	3,300	3,300				
	Medical Officers	5	70	2	Mobile Teams	4,620				700	3,220	700
	Multi-purpose Staff	2	400	16	Trained MOs and NMSs	26,400				4,000	18,400	4,000
77 Dists. with intermediate endemicity	Medical Officers & Supervisors	5	70	2	Mobile Teams - 1 for each 5 Dists.	5,390		2,660	2,730			
	Multi-purpose Staff	2	400	16	Trained MOs	30,800		15,200	15,600			
135 high endemicity Districts already under regular MDT	Medical Officers	5	70	2	Leprosy Training Centers	9,450		4,760	4,690			
	Multi-purpose Staff	2	400	16	MO, LCU and PHC	54,000		27,200	26,800			
	NLEP Staff in other duties		100	2	CMO, DTCs and DLO	13,500		6,800	6,700			
Endemic Pockets	Medical Officers	5	70	2	Mobile Teams	1,400		700	700			
	Multi-purpose Staff	2	400	16	MOs	8,000		4,000	4,000			
						160,160	3,300	64,620	61,220	4,700	21,620	4,700

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NATIONAL LEPROSY ELIMINATION PROJECT

SELECTED PROJECT COST TABLES

Table 1. Expenditure Accounts by Years
(Rs. Millions)

	Base Cost							Foreign Exchange	
	93/94	94/95	95/96	96/97	97/98	98/99	Total	%	Amount
I. Investment Costs									
Civil Works	11.17	22.34	22.34	0.00	0.00	0.00	55.86	9.0	5.03
Furniture	1.66	2.83	2.58	0.00	0.00	0.00	7.07	9.0	0.64
Equipment	30.38	74.66	40.81	21.60	21.60	21.60	210.64	30.0	63.19
Vehicles	50.84	91.63	89.13	0.00	0.00	0.00	231.60	30.0	69.48
Materials & Supplies	9.60	16.75	16.75	16.75	16.75	16.75	93.33	5.0	4.67
Medicines	67.60	94.41	110.23	119.03	104.03	91.83	587.12	40.0	234.85
Workshops	9.63	13.85	14.75	14.75	14.75	14.37	82.09	-	-
Contractural Services	103.95	242.66	261.12	267.01	267.01	267.01	1,408.76	5.0	70.44
Medical/Surgical Services	10.00	33.82	28.70	28.04	27.38	8.95	136.88	15.0	20.53
Training	21.80	47.04	62.25	15.89	13.13	9.36	169.47	-	-
Publicity Services	33.63	33.83	33.83	33.83	33.83	18.83	187.75	10.0	18.77
NGO Services	14.40	25.92	25.92	25.92	25.92	25.92	144.00	-	-
Total Investment Costs	364.66	699.73	708.39	542.80	524.37	474.61	3,314.56	14.7	487.59
II. Recurrent Costs									
Honoraria	24.45	25.99	25.99	25.99	25.99	16.39	144.77	-	-
Vehicle Operation & Maintenance	18.67	19.82	20.40	20.40	20.40	20.40	120.09	15.0	18.01
Office Operation & Maintenance	8.36	15.05	15.05	15.05	15.05	15.05	83.60	-	-
Patients Ex-Gratia Payments	12.24	38.63	44.25	46.59	46.59	46.59	234.90	-	-
Hospital Services	14.04	14.04	14.04	14.04	14.04	7.80	78.00	-	-
Salaries	65.70	74.46	74.46	74.46	74.46	74.46	438.00	-	-
Consumable Materials	3.30	3.87	3.87	3.87	3.87	3.87	22.67	5.0	1.13
Total Recurrent Costs	146.75	191.86	198.06	200.40	200.40	184.56	1,122.03	1.7	19.15
Total BASELINE COSTS	511.42	891.59	906.45	743.20	724.77	659.17	4,436.59	11.4	506.74
Physical Contingencies	33.08	58.60	58.31	43.92	42.25	38.84	275.01	16.1	44.29
Price Contingencies									
Inflation									
Local	14.12	63.34	101.48	99.09	120.14	121.65	519.81	-	-
Foreign	1.03	5.26	8.44	8.11	9.60	10.11	42.55	100.0	42.55
Subtotal Inflation	15.15	68.60	109.92	107.20	129.74	131.76	562.36	7.6	42.55
Devaluation	5.27	18.33	26.43	22.62	24.81	24.31	121.77	94.0	114.52
Subtotal Price Contingencies	20.42	86.93	136.35	129.81	154.54	156.07	684.14	23.0	157.08
Total PROJECT COSTS	564.91	1037.13	1101.11	916.93	921.57	854.08	5,395.73	13.1	708.10
Taxes	16.55	30.12	29.04	19.94	19.46	18.19	133.31	-	-
Foreign Exchange	77.99	147.20	153.23	115.26	112.13	102.29	708.10	-	-

Table 2. Disbursement Accounts by Disbursement Categories
(US$ Million)

	IDA		GOI		Total		For.	Local	Duties
	Amount	%	Amount	%	Amount	%	Exch.	(Excl. Taxes)	& Taxes
Civil Works	-	-	1.87	100.0	1.87	1.4	0.18	1.70	-
Furniture	-	-	0.24	100.0	0.24	0.2	0.02	0.21	-
Equipment	6.60	90.0	0.73	10.0	7.33	5.3	2.30	4.29	0.73
Vehicles	2.37	30.0	5.52	70.0	7.89	5.7	2.47	4.87	0.55
Materials & Supplies	2.91	90.0	0.32	10.0	3.23	2.3	0.17	2.83	0.23
Patient Ex-Gratia	-	-	6.24	100.0	6.24	4.5	-	6.24	-
Medicines	18.82	90.0	2.09	10.0	20.91	15.1	8.73	10.72	1.46
Workshops	2.70	100.0	-	-	2.70	2.0	-	2.70	-
Contractural Services	32.16	84.7	5.81	15.3	37.97	27.5	2.27	35.70	-
Medical/Surgical Services	4.53	100.0	-	-	4.53	3.3	0.72	3.80	-
Training	5.47	100.0	-	-	5.47	4.0	-	5.47	-
Publicity Services	5.23	84.7	0.95	15.3	6.18	4.5	0.66	5.27	0.25
NGO Services	-	-	4.74	100.0	4.74	3.4	-	4.74	-
Honoraria	2.25	50.0	2.25	50.0	4.51	3.3	-	4.51	-
Vehicle Operation & Maintenance	2.00	50.0	2.00	50.0	3.99	2.9	0.64	3.15	0.20
Office Operation & Maintenance	-	-	2.75	100.0	2.75	2.0	-	2.75	-
Hospital Services	-	-	2.55	100.0	2.55	1.8	-	2.55	-
Salaries	-	-	14.39	100.0	14.39	10.4	-	14.39	-
Consumable Materials	-	-	0.78	100.0	0.78	0.6	0.04	0.73	0.02
Total	85.04	61.5	53.23	38.5	138.27	100.0	18.21	116.62	3.44

Table 3. Expenditure Accounts by Categories
(US$ Million)

Categories	Vertical Multi-Drug Therapy	Integration of Multi-Drug Therapy thru PHC	Disability Care & Prevention	Promoting Public Awareness	Enhancing Skills & Institutional Development	Total	Physical Contingencies %	Physical Contingencies Amount
I. Investment Costs								
Civil Works	1.71	-	-	-	-	1.71	10.0	0.17
Furniture	0.10	0.09	-	0.01	0.02	0.22	10.0	0.02
Equipment	1.24	0.21	3.68	0.01	1.32	6.46	10.0	0.65
Vehicles	6.17	0.60	-	0.20	0.15	7.10	10.0	0.71
Materials & Supplies	1.55	0.05	-	0.43	0.83	2.86	10.0	0.29
Medicines	13.59	4.42	-	-	-	18.01	10.0	1.80
Workshops	0.77	0.34	0.07	0.21	1.13	2.52	5.0	0.13
Contractural Services	27.43	11.33	-	1.24	3.22	43.21	5.0	2.16
Medical/Surgical Services	-	-	4.20	-	-	4.20	5.0	0.21
Training	-	-	-	-	5.20	5.20	5.0	0.26
Publicity Services	-	-	-	5.76	-	5.76	5.0	0.29
NGO Services	-	-	-	4.42	-	4.42	5.0	0.22
Total Investment Costs	52.56	17.03	7.95	12.28	11.86	101.67	6.8	6.90
II. Recurrent Costs								
Honoraria	3.68	0.76	-	-	-	4.44	-	-
Vehicle Operation & Maintenance	2.67	0.53	-	0.18	0.31	3.68	5.0	0.18
Office Operation & Maintenance	1.92	0.46	-	-	0.18	2.56	5.0	0.13
Patients Ex-Gratia Payments	3.75	3.45	-	-	-	7.21	5.0	0.36
Hospital Services	2.39	-	-	-	-	2.39	5.0	0.12
Salaries	13.44	-	-	-	-	13.44	5.0	0.67
Consumable Materials	0.47	0.01	-	-	0.21	0.70	10.0	0.07
Total Recurrent Costs	28.33	5.22	-	0.18	0.69	34.42	4.5	1.53
Total BASELINE COSTS	80.89	22.25	7.95	12.45	12.55	136.09	6.2	8.44
Physical Contingencies	5.10	1.34	0.58	0.66	0.75	8.44	-	-
Price Contingencies	-3.82	-2.35	0.32	0.05	-0.45	-6.26	3.8	-0.24
Total PROJECT COSTS	82.16	21.24	8.85	13.16	12.86	138.27	5.9	8.20
Taxes	2.00	0.47	0.42	0.31	0.24	3.44	8.5	0.29
Foreign Exchange	11.35	3.15	2.06	0.85	0.79	18.21	8.1	1.47

Table 4. Project Components by Year
(Rs. Million)

Components	Base Cost 93/94	94/95	95/96	96/97	97/98	98/99	Total
Vertical Multi-Drug Therapy	359.67	528.91	533.91	423.74	408.74	381.90	2,636.89
Integration of Multi-Drug Therapy thru PHC	13.00	117.31	153.71	147.65	147.65	146.05	725.37
Disability Care & Prevention	22.23	55.84	50.72	50.06	49.40	30.97	259.21
Promoting Public Awareness	63.17	71.55	71.55	71.55	71.55	56.55	405.94
Enhancing Skills & Institutional Development	53.34	117.97	96.56	50.20	47.43	43.69	409.18
Total BASELINE COSTS	511.42	891.59	906.45	743.20	724.77	659.17	4,436.59
Physical Contingencies	33.08	58.60	58.31	43.92	42.25	38.84	275.01
Price Contingencies							
Inflation							
Local	14.12	63.34	101.48	99.09	120.14	121.65	519.81
Foreign	1.03	5.26	8.44	8.11	9.60	10.11	42.55
Subtotal Inflation	15.15	68.60	109.92	107.20	129.74	131.76	562.36
Devaluation	5.27	18.33	26.43	22.62	24.81	24.31	121.77
Subtotal Price Contingencies	20.42	86.93	136.35	129.81	154.54	156.07	684.14
Total PROJECT COSTS	564.91	1,037.13	1,101.11	916.93	921.57	854.08	5,395.73
Taxes	16.55	30.12	29.04	19.94	19.46	18.19	133.31
Foreign Exchange	77.99	147.20	153.23	115.26	112.13	102.29	708.10

Table 5. Expenditure Accounts by Years
(US$ Million)

	IDA		GOI		Total		For.	Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Exch.	Taxes)	Taxes
Vertical Multi-Drug Therapy	43.67	53.2	38.49	46.8	82.16	59.4	11.35	68.81	2.00
Integration of Multi-Drug Therapy thru PHC	14.49	68.2	6.76	31.8	21.24	15.4	3.15	17.63	0.47
Disability Care & Prevention	8.43	95.2	0.42	4.8	8.85	6.4	2.06	6.36	0.42
Promoting Public Awareness	6.99	53.1	6.17	46.9	13.16	9.5	0.85	12.00	0.31
Enhancing Skills & Institutional Development	11.46	89.1	1.40	10.9	12.86	9.3	0.79	11.82	0.24
Total Disbursement	85.04	61.5	53.23	38.5	138.27	100.0	18.21	116.62	3.44

Table 6. Detailed Procurement Arrangements
(US$ Million)

	Procurement Method						
	International Competitive Bidding	Local Competitive Bidding	Local Shopping	Off the Shelf	Other	N.B.F.	Total
Equipment	-	2.00 (1.80)	5.33 (4.80)	-	-	-	7.33 (6.60)
Vehicles	-	-	7.89 (2.37)	-	-	-	7.89 (2.37)
Materials & Supplies	-	-	1.50 (1.35)	1.73 (1.55)	-	-	3.23 (2.90)
Medicines	13.77 (12.39)	-	5.30 (4.76)	1.86 (1.68)	-	-	20.93 (18.83)
Workshops & Training	-	-	-	-	8.17 (8.17)	-	8.17 (8.17)
Contractural Services	-	-	-	-	37.97 (32.14)	-	37.97 (32.14)
Medical/Surgical Services	-	-	-	-	4.53 (4.53)	-	4.53 (4.53)
Publicity Services	-	-	-	-	6.18 (5.21)	-	6.18 (5.21)
Honoraria	-	-	-	-	4.51 (2.24)	-	4.51 (2.24)
Vehicle Operation & Maintenance	-	-	-	-	3.99 (2.00)	-	3.99 (2.00)
Civil Works	-	-	-	-	-	1.87	1.87
Furniture	-	-	-	-	-	0.24	0.24
NGO Services	-	-	-	-	-	4.74	4.74
Office Operation & Maintenance	-	-	-	-	-	2.75	2.75
Patient Ex-Gratia	-	-	-	-	-	6.24	6.24
Hospital Services	-	-	-	-	-	2.55	2.55
Salaries	-	-	-	-	-	14.39	14.39
Consumable Materials	-	-	-	-	-	0.78	0.78
Total	13.77 (12.39)	2.00 (1.80)	20.02 (13.28)	3.59 (3.23)	65.35 (54.29)	33.56 -	138.29 (85.00)

Notes:
- Figures in parenthesis are the respective amounts financed by IDA.
- For ease of reference, the categories against which IDA proceeds would be disbursed are shown on the upper part of the table.
- N.B.F.: Not Bank Financed.

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

MONITORING INDICATORS

A. Essential Indicators

Prevalence Rate

1. The prevalence rate is defined as the number of cases registered for chemotherapy at the end of the year divided by the population in which the cases have occurred. This indicator reflects the magnitude of the problem and helps in planning and evaluating control measures. It is useful to express the prevalence using absolute numbers and rate per 10,000.

Detection Rate

2. This rate is defined as the number of new cases detected during a year divided by the population covered by the program. This indicator is the most appropriate for estimating the true incidence of the disease in a given population. It should always be related to the prevalence, and be expressed using absolute numbers and rate per 10,000.

Disabilities Among Newly Detected Cases

3. This is defined as the proportion of newly detected cases with visible deformities or damage present (WHO Grade 2) among the total number of newly detected cases during the year. This indicator reflects the effectiveness of the program in terms of early case finding and the level of community awareness of the disease, particularly in the initial phase of MDT implementation.

MDT Coverage

4. MDT coverage is defined as the proportion of cases receiving multidrug therapy among the total number of cases appearing on the treatment register. This indicator reflects the program performance in achieving MDT coverage.

5. The MDT coverage can be expressed according to various periods of time while specifying the types of leprosy (MB & PB). The age of the patients and the sub-categories of "early cases" or "established cases" are also considered.

6. In calculating MDT coverage, the indicator expresses the proportion of patients under MDT among the total number of patients registered for treatment. However, sub-categories of patients require further attention, e.g., if a high proportion of "early cases" are put on MDT (majority of cases) and only a low proportion of "established cases" (minority) are receiving MDT, the aggregate MDT coverage may be high but the proportion of patients with

established conditions who really need MDT may remain inadequately covered. Also, MDT coverage may be poor in areas of difficult terrains.

7. At global and national levels the use of cumulative MDT coverage is considered useful to measure the achievements of a leprosy control program in terms of the proportion of patients treated with MDT since its implementation.

Cure Rate

8. This rate is defined as the proportion of registered cases cured of leprosy among cases who are supposed to complete MDT during a given period. This indicator is extremely useful for monitoring implementation of MDT at all levels. It should be calculated using cohort reporting, the cohort being defined as a group of patients starting treatment at the same period of time. Wherever the compilation of this information is not yet feasible, the annual absolute number and the cumulative number of cured patients can be used.

Relapse Rate

9. Recording of relapses serves as a crude marker of treatment failure which could indicate the need for special studies.

10. For monitoring purposes, reporting on the absolute number of relapses is adequate. If relapse rates are calculated on cohort basis, the period of follow up should be taken into consideration.

B. Optional Indicators

11. These indicators may be used for special purposes primarily through a network of sentinel centers/areas. Additional resources may be needed for collection of some data required for these indicators.

(a) Prevalence rate by type MB/PB;

(b) Proportion of children among newly detected cases;

(c) New cases specified by mode of detection;

(d) Incidence of new disabilities among registered cases; and

(e) MDT coverage in new patients.

C. Program Coverage

12. For some statistical comparative purposes at the national and global levels, it may be necessary to adjust denominators using existing information on health services coverage, immunization coverage notably BCG coverage, and utilization of general health services by leprosy patients.

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

SUPERVISION PLAN

A main strategy for field visits would be to compare project implementation issues in vertical service delivery settings with the integrated model of service delivery in the general health care system. IDA supervision teams would collaborate with WHO visiting teams and resident technical experts. WHO would also share with IDA its findings of the yearly program review. Supervision missions would liaise with major NLEP participants, who would be invited to participate in the Mid-term Review. The World Bank Resident Mission would participate in (a) liaising with the Government and providing operational support; and in (b) procurement, disbursements and auditing matters and follow-up.

Semester (Calendar Year)

94 I
94 II
95 I
95 II
96 I

96 II/97 I Mid-Term Review

97 II
98 I
98 II
99 I
99 II

Field of Skills Required on Alternating Basis

Leprology
Epidemiology
IEC
Anthropology
Tribal Affairs
Training/Human Resources Development
Economics
WID
Procurement, Disbursement, Auditing

Staff Weeks Requirements

20-24 staff weeks would be required every year.

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NATIONAL LEPROSY ELIMINATION PROJECT

FORECAST OF EXPENDITURES AND DISBURSEMENTS

IDA Fiscal Year	Expenditures		Disbursements	
	Semester	Cumulative	Semester	Cumulative
	US$ Million			
FY94				
Jul 93 - Dec 93	8.12	8.12	4.30	4.30
Jan 94 - Jun 94	8.12	16.24	4.30	8.59
FY95				
Jul 94 - Dec 94	14.05	30.25	8.25	16.84
Jan 95 - Jun 95	14.05	44.34	8.25	25.09
FY96				
Jul 95 - Dec 95	14.15	58.49	8.30	33.38
Jan 96 - Jun 96	14.15	72.64	8.30	41.68
FY97				
Jul 96 - Dec 96	11.46	84.10	7.03	48.71
Jan 97 - Jun 97	11.46	95.56	7.03	55.73
FY98				
Jul 97 - Dec 97	11.18	106.74	6.75	62.48
Jan 98 - Jun 98	11.18	117.92	6.75	69.23
FY99				
Jul 98 - Dec 98	10.17	128.09	5.91	75.13
Jan 99 - Jun 99	9.91	138.00	5.91	81.04
FY2000				
Jul 99 - Dec 99	0.26	138.26	2.98	84.02
Jan 2000 - Mar 2000	0.00	138.26	0.98	85.00

INDIA

NATIONAL LEPROSY ELIMINATION PROJECT

SELECTED WORKING PAPERS AND DOCUMENTS AVAILABLE IN THE PROJECT FILE

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4. Project Document for World Bank Support, Additional Information. Leprosy Division, Directorate General of Health Services, Ministry of Health and Family Welfare, 1992. Volumes I and II.

5. Training Manual for Health Workers, National Leprosy Eradication Programme in India, 1990. Leprosy Division, Directorate General of Health Services, Ministry of Health and Family Welfare.

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20. Multidrug Therapy for Leprosy: An End in Sight. World Health Organization, Geneva, 1988.

21. Integration of Leprosy Services with General Health Services - Why and How.

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24. Report on GOI/WB/WHO Mission to Assess Current Activities on the National Leprosy Eradication Program. L. Lopez Bravo and B.K. Rao, February 1992.

25. Leprosy Elimination. Forty-fifth Session of the Regional Committee. Regional Office for South-East Asia. World Health Organization, SEA/RC45/19, July 1992.